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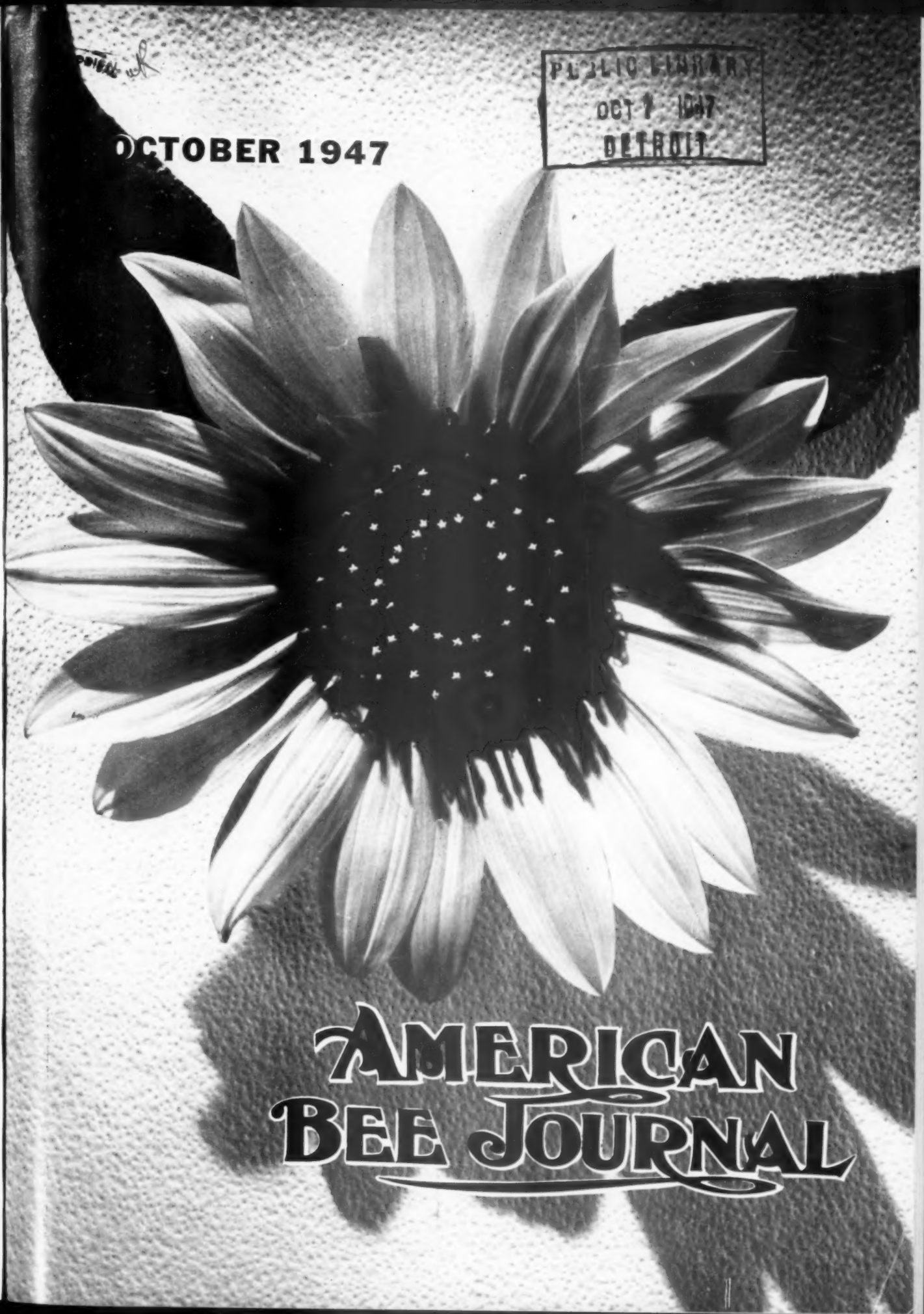

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1948

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ITALIAN PACKAGE BEES AND QUEENS.

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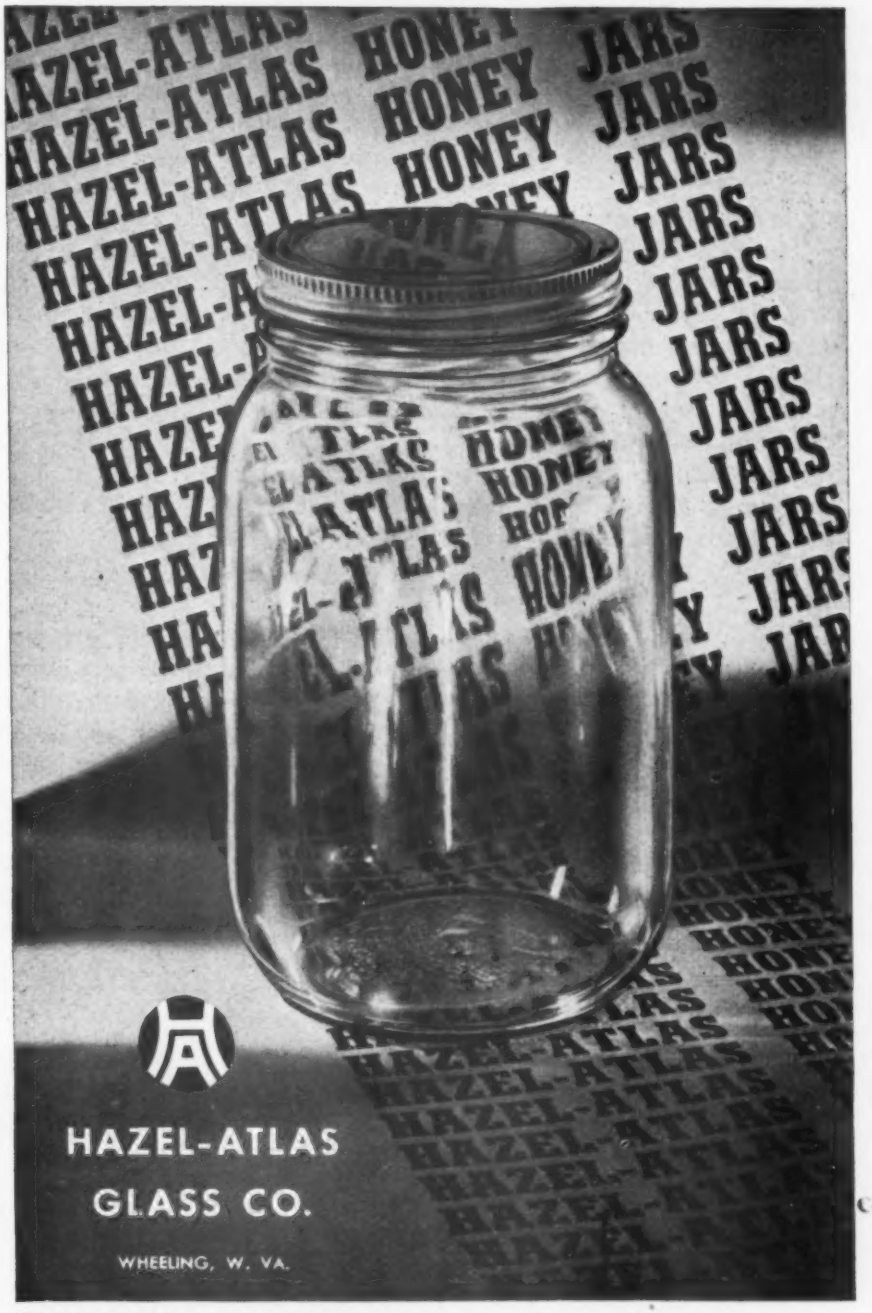

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Editorial Comment

THE POLLINATION CONFERENCE

THE pollination and bee pasture conference held in Amherst, Massachusetts, on July 12 was an unusual event. Like the preceding conference held at Atlantic, Iowa, last year, it brought together leaders in other fields who have a definite interest in honeybee activity.

The National Federation is finding common ground for action with interested groups in several other fields. The Soil Conservation Service, Highway Departments, Agronomists and Horticulturists, all working to a common end, find mutual benefits from such a meeting.

The discussion leaders were recognized authorities in their respective fields and the program was worth going a long way to hear for anyone interested in beekeeping or pollination. An extended report of the meeting can be expected shortly.

R. B. Willson, chairman of the honey plants committee, is already making plans for a similar conference next summer and has under consideration several regional meetings to serve different sections of the country.

SUPPORT THE FEDERATION

FOR the first time in many years the beekeepers have an efficient national organization. A capable full-time secretary is giving service which is invaluable to the industry. The activities of the organization have brought the interests of the beekeeper to public attention in nation-wide publicity on a scale never before known. For the first time there is general recognition of the fact that the services of the honeybee are indispensable in pollination of many crops. Because of this fact the average beekeeper is likely to receive benefits which he little appreciates.

Such services as the Federation is giving requires heavy expense and unless more funds are forthcoming activities will have to be curtailed. Too many beekeepers are willing to share the benefits while leaving others to bear all the cost. It is time for every individual to consider the question as to whether he is meeting his fair share of the overhead. Every man who has a stake in the honey producing industry should lend his help whether he profits from the sale of honey or draws a salary for some service to the craft. The least that should be considered is an individual membership in the organization.

If the Federation is properly supported now we can expect a period of much greater prosperity than will otherwise be possible. If it should fail it will probably be many years before such an opportunity comes again. The time for action is now and the question is up to you as an individual as to whether you will do your share.

NEED OF NEW PLANTS

THE bee pasture problem will be solved when careful attention is given to the needs of various groups making use of plant material. Just now when erosion control is very much in public consciousness there is a special opportunity to find a place for new plants. In the Southeast, Lespedeza bicolor is proving very popular for game cover as well as erosion control. This plant is very desirable for both and at the same time provides very good bee pasture.

It is important that the beekeeping industry be prepared to offer a good honey plant to meet every emergency where plants are needed. In an effort to find such plants, the American Bee Journal has established the test garden at Atlantic, Iowa. Although only about one per cent of the plants under observation seem to offer special promise, new ones of value continue to come to light.

The marjoram (*Origanum vulgare*), from grandmother's herb garden is a very promising plant for roadside planting. It does not grow tall enough to present a mowing problem, remains green late in summer where grasses are brown from dry weather, and holds the soil very well. It comes into bloom at about the time of the close of the clover flow and provides a good source of honey.

Marjoram, in combination with the grasses,

For October 1947

provides an ideal means of holding loose soils and once it becomes well known to highway departments is likely to be very widely used.

The new clover, (*Trifolium ambiguum*), now often called Pellett clover, spreads so rapidly from the root and makes such extensive growth that it offers great promise for erosion control. It seems to do poorly when first brought into a new environment and may require some time to prove its adaptation. Nodules are found on the roots in areas where it has grown for some time and indications are that eventually it will be widely used.

QUEEN FAILURE

THIS is a season of disastrous queen failure. From every direction comes reports of supersedure and queenlessness on an unprecedented scale. With an abundance of clover, the queens have failed at a very critical time. The failure of the queen results in a heavy loss to the colony. When egg laying ceases for a period of from ten days to two weeks in early spring, much of the productive working force is lost.

Losses have been especially heavy with package bees, but there is also much failure of the queens in overwintered colonies. The cold and backward spring was unfavorable for replacement and in too many cases the colony has been lost entirely.

Most certainly we need to know more about the reasons for this serious condition which has cost the beekeepers a substantial portion of the possible 1947 harvest.

THREE THINGS NECESSARY TO SUCCEED WITH BEES

MUCH of the manipulation commonly practiced in the apiary is not only unnecessary, but in many cases actually hinders the bees. The less the bees are disturbed the better for them, although at times it is necessary to look into the brood nest to ascertain conditions there.

Given three things at the right time the bees will return good dividends to their owners. The first essential is ample room in which to expand the colony and store their honey.

The second requirement is good combs. All combs should be drawn on full sheets of foundation above the brood nest and during a good honeyflow. Defective combs should be discarded when conditions for rebuilding are favorable. The novice can hardly imagine how much difference there will be in his crop as a result of replacing poor combs and thus eliminating an excess of drones.

The third essential is to leave plenty of reserve stores for the bees to meet any emergency. An ample supply of good honey and stored pollen will go far to insure good wintering and a rapid increase in population ahead of the honeyflow.

There are other things which are important, but the man who makes sure that there is no neglect of these three is likely to be regarded as a successful beekeeper.

HONEY FOR HEALTH

NOW that we are facing a period of readjustment it would seem to be highly desirable to conduct research on the health-giving qualities of honey. If we can revive the confidence in our product that once prevailed, the beekeeping industry would be unable to supply the demand for honey.

Mohammed, the religious leader of one of the largest groups, is reported to have said, "Honey is the remedy for all ills." Aristoxenus taught in about 320 BC, that one who eats bread and honey for his breakfast will be free from all diseases.

Perhaps there is more reason for this confidence than is now recognized. Only let it be definitely shown that honey has some special health-giving value and the demand will increase as it has for other products under similar conditions. Fifty years ago the butcher gave away the liver or sold it for about five cents per pound. Now the supply is inadequate at top prices. When the medical profession called attention to the vitamin content of carrots and oranges, both came into almost universal use and every housewife includes both on her table nearly every day. We ought to know about honey and its place in the diet.

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Three-Banded Italians; also MRAZ'S STRAIN Bred For Resistance to A. F. B.

HEALTH CERTIFICATE ON ALL SHIPMENTS

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Queens clipped and airmailed at no extra cost

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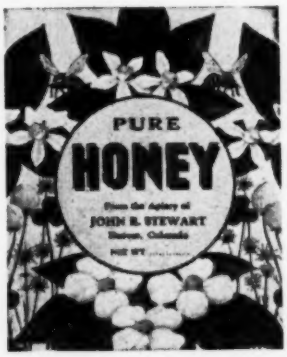

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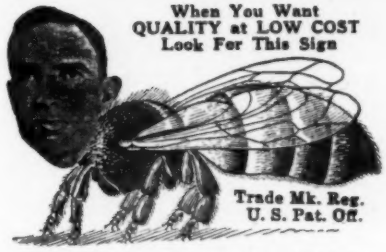

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October, 1947

American Bee Journal

Vol. LXXXVII, No. 10

HAMILTON, ILLINOIS

Managing Editor—G. H. Cale

Associate Editors—M. G. Dadant, Frank C. Pellett, J. C. Dadant, Roy A. Grout

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An upland field of buckwheat in Sao Paulo, Brazil.

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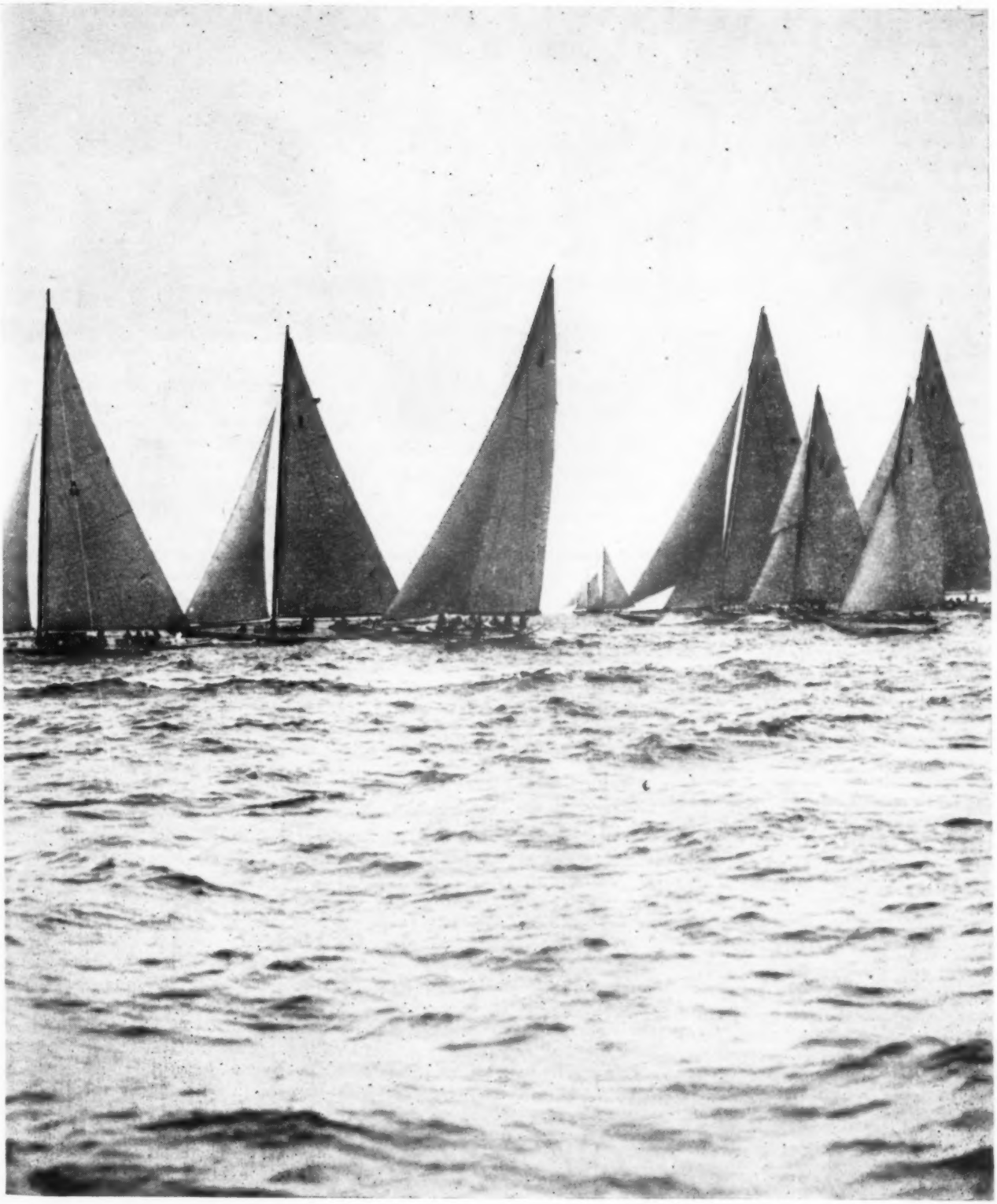


WHITE sails in the sunlight, all wind proofed with beeswax . . . hope we don't get panned too much for the sulfa article . . . Ever realize that bee-keeping down under in Australia is big business? In some ways ahead of us (480) . . . If some don't like any ban on importations, others think at the other extreme (482) . . . Dyce is alarmed by bee poisoning. He is from an apple state (486) . . . To top off, Ralph Barnes tries to get us toe tipping about markets (489).

Does Sulfa Mask Disease?

By G. H. Cale

SINCE Haseman and Childers, of Missouri, startled the beekeeping world with the evidence that sulfathiazole is a dependable control for American foulbrood, the bitter disappointments of the past, when other claims for control proved ineffective, at once arose to make a host of doubters for the new discovery. It was a natural and inevitable result of the past failures.

Much of the controversy over the use of sulfathiazole, however, is like the hearty debates of those learned men who considered it quite intellectual in former days to debate the "ifs" and "ands" of imaginary fact. Scientific consideration often actually resulted from a heated argument. Neither the laboratory, nor the test tube, nor the field were considered of importance.

We have threshed over the pros and cons of sulfa for bee disease long enough now to bring some clarity to the important objections to its use. Most of us have gone far enough and have used a sufficiently sharp pencil in practice to feel that, for most of us, the safest and the cheapest course with diseased colonies is to dispose of them in the good old way.

Experimentally we have treated and cured many a case of disease with sulfa. By introducing high producing queens of good resistant stock and feeding a pail of sulfa, we have found the colony almost magically well in a short time.

In spite of that, we still say the cheapest way is to dispose of what disease we find. This may seem hardly logical. But wait. Whenever bees need feed, the feed has sulfa added and since our stock in many yards is mainly resistant, we find so few cases of American foulbrood that we gas them and melt up the combs. In a 2300 colony outfit we have had two cases in two years.

Hundreds of beekeepers, however, treat mild cases of diease with sulfa and cure it. A few are Scotch enough to treat and cure even the last-stage cases in one way or another. Some go about such treatment with little understanding of the right way to do it. Some treat too little and get recurrence. Some are just downright careless and so may be a menace.

From the many variations in the use of sulfa as a preventive or as a cure for disease, the greatest scare that emerges is the fear that the sulfa will merely hold the disease in check, or mask it, until such time as it may again appear; that equipment will get so contaminated and mixed that when that sad day comes, the cure will be the doom of honey production. On this point the platform orators do get in some roars and shake dire fingers in our faces.

How about it? Will sulfa mask disease? I shout right back at the orators, "No, it will not." Use sulfa in a preventive feed, dispose of what little disease you may have, and enjoy the oratory.

I think we were the first to experiment on a large scale with the effects of sulfa. The very worst cases of disease responded to it. Now it seems that in the presence of sulfa the bacilli that cause American foulbrood reproduce so slowly that the bee larvae can easily handle the invaders. Apparently the sulfa also makes it hard for the bacilli to sporulate and the larva's antibodies have a glorious time winning the battle. There often may be some well hidden spores that get by and so some treated colonies may again show disease but treatment again proves the final victor.

The idea that the sulfa causes the bacilli to hide away in some mysterious manner cannot stand even simple experiment. We have divided cured colonies after two years of apparently complete freedom from disease and given disease inserts to one part, leaving the other part as check . The disease freely developed again in the inoculated halves. These may again be cured with sulfa, and this reinoculation continued indefinitely. Sulfa does not create any resistance in a non-resistant strain and sulfa does not mask the original disease.

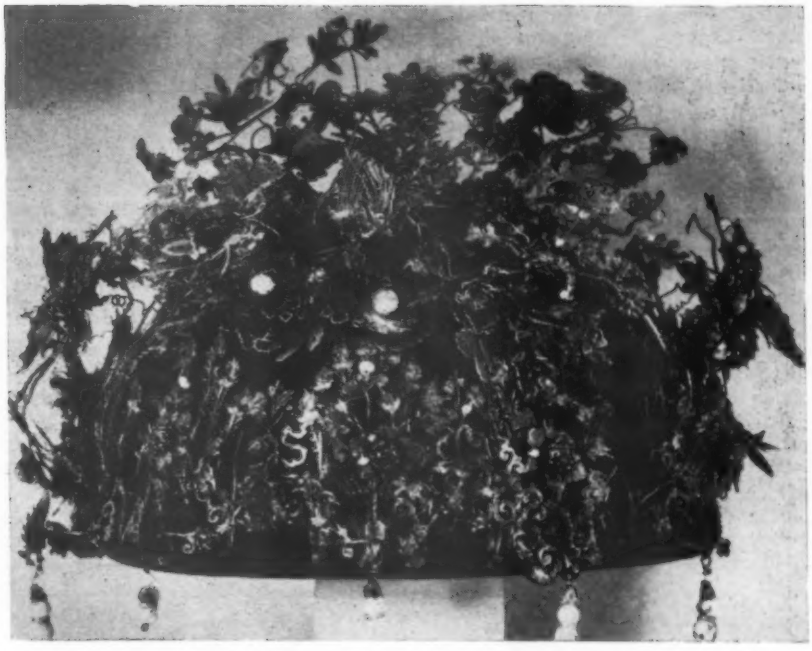
Our own decision in the use of sulfa is based entirely on economics. It requires only a very dull pencil to understand the facts. Ever since Missouri put up its white banner of victory, we have used sulfa, beginning with the half gram veterinary tablet, and then on to powdered sulfathiazole, coco-thiazole, sulfamethazine, and sodium sulfathiazole. We believe that sodium sulfathiazole is almost a specific for American foulbrood. We have treated badly diseased colonies, slightly diseased colonies, and whole apiaries of healthy bees running into 3500 colonies.

The cheapest way to control American foulbrood is to use a preventive feed containing sodium sulfathiazole at the rate of a fourth teaspoonful to the ten-pound pail of feed. When resistant stock is used such feeding does not need to be done except when colonies are fed to supply stores. With common stock two spring feedings are enough. So little disease will be found with this plan that the cheapest, quickest as well as the safest, way is to dispose of it and start the hives out again with divides or packages the following spring.

Don't get panicky hereafter when some hot orator pours out the jives and shouts, "Look out. Some day your disease will be back worse than ever. All sulfa does is to drive it into the far corners to hide against the sulfa gestapo. Stick with the good old way." Bosh!

Beeswax In Crime And in The Arts

By J. T. MacMillan



Tang Dynasty Empress Crown (China).

THE American Legion Convention had taken New York in a good natured storm of hilarity. So Patrolman Wilson, instead of doing his usual clerical work in the office of the Old Slip Police Station, was out pounding his old beat once again.

The patrol was pleasant enough, beginning on the edge of the financial district and ambling on through the diamond merchants street curb market. It ended on the fringe of the jewelry novelty manufacturing district near the corner of old Nassau and Maiden Lane. In this area known criminals ordinarily are not seen. The commissioner's orders stand firm. If found south of Fulton Street at any time, they go to "The Tombs" on a charge of being suspicious characters. Fulton Street to Battery Wall on the Bay probably contains more money whether in financial houses, the Assay Office, or the numerous gem stone dealers, than any equal area in the world.

Not many of the boisterous legionaires had gotten so far down town either; the streets, while filled with persons going about their business, were normally quiet. Thus the sudden contrast of waving arms and vigorous shouts on the fifth floor of the John Street Jeweler's Exchange could mean only trouble.

As the story was fitted together afterward by the various detectives and investigators, it meant a holdup. Wilson had gone down shooting, while the thieves made their get-away with only part of the loot of refined gold and silver bars, and unset gem stones.

Wilson was buried with honors; but the case remained on the department books for some time, unsolved. The criminals had not left a single clue at the scene of the holdup and murder, other than the bullet in Wilson's body. The ballistics experts had examined the bullet that killed Wilson but had nothing against which to check it. It was believed Wilson had wounded one in the exchange of bullets, and in their haste the killers had upset a table and work bench.

A few weeks later detective Gorth found an old, stained and wax spotted lumber jacket discarded in an empty lot near the Fulton Fish Market, some distance away from the water front. A hunch of his connected this, somehow, with the now forgotten holdup.

The Department chemists' analysis proved the stains to be blood. The beeswax and resin spots were identical with the analysis of the formula used in the jewelry plant. The clue had been found. When the thieves upset the table, an iron ladle, containing a wax mixture had been spilled. Some weeks later the lumber jacket's owner was traced by painstaking effort. His confession resulted in the capture of an accomplice; but was not otherwise needed. The analysis proving the beeswax of the mixture identical with that in the spots on his jacket, sent both to jail on a charge of murder. Conviction followed.

While this accidental helping hand by beeswax is interesting, far more unusual are the other practices calling for honeybee products in art jewelry work. Let's take a look at honey—in precious gem stones.

Alchemy, as we all know is ancient chemistry; which once was renowned for many attempts at changing base metals like brass into valuable metals like gold. Some fakers still try to do it today, or try to make us think they can.

In the present day this alchemy is legitimately practised by manufacturing jewelers. They create precious or semi-precious stones; onyx, sardonyx and carnelian, from a common stone known as agate. Naturally mined onyx and sardonyx of gem stone calibre is comparitively rare today. Not enough is mined or discovered to meet the demand. Naturally mined honey color carnelian gems are even more uncommon.

At one time they were in great demand for use as signet rings because of their natural beauty and hardness. As Pliny said in his Natural History, "The hot wax (beeswax) does not stick to the signet ring when used for sealing letters."

Now common agate from many sections of the world is shipped to Bingen in the Rhine River Valley of Germany. There the agates are cut into various sizes and shapes. They are placed in prepared solutions of hot honey, sucrose or olive oil. The stones remain in one of these solutions for a month or so, and when removed and washed, they are placed in a bath of sulphuric acid. The acid carbonizes the honey which has been absorbed by the porous stones. Different honeys and oils are used to get an endless variety of color effects. Whatever the jeweler desires, he can have.

Onyx, formerly a black and white striped marble; sardonyx a red and white chalcedony; and many other gem stones are duplicated from agate in this manner. Most of the cameo rings and brooches made today come from treated agates. When we consider that the agate is an unattractive, flatly colored greyish stone, the transition is remarkable.

Details of the latest processes are held closely guarded secrets. A new

ruling forbids any information on the coloring and dying of agates to reach the outside world under severe penalty to the informer.

Many other gems are treated. Opaque, smoky zircons, from Siam, for example, are made into brilliantly sparkling blue ring stones of high transparency, by the application of terrific heat. Rubies, aquamarine, topaz, sapphire and emerald are treated occasionally by this and other methods.

Not only jewelers, but watch makers also, case harden their small delicate tools by repeatedly plunging them into a bar of sealing wax until entirely cooled off. While it has been a long time since the base of sealing wax was beeswax, in the days in which it was, this method of hardening delicate tools was practised in many fields. Formerly the tiny steel drills for boring through glass, china and jewelry were treated this way.

The hardening pastes that displaced the sealing wax, contained beeswax until the advent of the refined ceresin wax. This mineral wax has many of the qualities of beeswax and sells for much less.

Again, in tempering small coil springs, such as hair springs for watches, a small ball of beeswax is dropped into the tempering bath. This is done whenever the test springs show any signs of brittleness or weakness on cooling off.

On occasion, jewelers use beeswax formulas in etching designs onto silverware, though most of this work is engraved.

Among other minor uses, many of which are no longer practised due to mechanical improvements, are the duplication of monograms, and cameo designs. This is done by means of beeswax molds. No matter how fine the detail, none is lost when beeswax is used. Thin, permanent plaster of Paris records of highly valued jewels and jewelry are taken from beeswax impressions. Precious metal castings of earrings and necklaces also are made by means of beeswax models, by a process known as cire perdue.

One of the most ancient usages by goldsmiths and silversmiths, is in the manufacture of gold and silver wire for the filigree work from which many rings and intricate ornaments have been made. In reducing wire to the desired size it is drawn through holes in a steel plate. If, at first, beeswax is applied to the wire, it does not adhere to the steel, and a finer, flawless wire results. An instance of painstaking effort is the T'ang Dynasty—China—Empress' crown.

———

Pelman Manor, New York.

Observations on Queen Introduction

By Howard J. Rock

HAVING worked in all the important producing areas of the United States, I have come to the conclusion that old experienced beekeepers have little better luck than novices in queen introduction. I use the word "luck" because too many times lack of method, or ignorance, makes successful queen introduction a pure matter of chance.

The "cut and dried" method of killing the old queen and placing the new queen in her mailing cage, between the frames is based on the theory of colony odor. If the queen can be kept in the hive several days, before releasing she will have absorbed the "colony odor," whatever that is, and be acceptable to the bees.

I don't believe one iota of the colony odor theory. Laws of nature are consistent always, and many well-known methods of queen introduction refute absolutely this theory which is not founded on demonstrable facts.

Many times, especially during a major honeyflow, I have lifted the old queen off her comb and replaced her immediately with a young laying queen, fresh from the nucleus.

If this new queen came from a nucleus, surely she had a foreign odor as far as the colony being requeened is concerned. According to the stereotyped thinking of beemen who believe everything the "experts" print, all these queens should have been killed. They definitely were not.

We often hear the expression "strange queen" especially in package installation. I wonder how long a queen must head a colony before she can be considered "in"? My experience tells me that the bees aren't aware whether the queen has been in the hive one day or three years. Many authorities caution against inspecting package colonies during their first month of build-up, especially on cold or cloudy days.

According to the textbooks the queen will be balled and killed. I agree the queen may be balled but, according to my observations, she will not be killed. Package colonies may ball a queen under such conditions but it is to protect her, not to kill her. A weak colony, established months before, will do the same thing to their queen. As far as I can make out it is purely a protective reaction.

Queens may be balled and killed on introduction but this method is based on the same principle. The queen is confined by the wire cage to a small area of comb, being fed through the screen. On her release she is in laying condition, her ovaries turgescent and ready to ovulate. Such queens will not be confused or nervous on release.

The Chantry method also works on this principle. So does the nucleus method where the queen and her nucleus are placed into the colony to be requeened.

Any successful requeening method must be based on the fact that the queen is in laying condition upon her release.

All beekeepers are aware that young bees will accept a queen more readily than old bees. This fact merely correlates the above statements. Young bees, especially those from five to fifteen days old, have their pharyngeal gland development in their prime. The secretions of these glands, fed by the bees to the queen, make it possible for her to lay as much as her own weight in eggs, every 24 hours. Old bees have their pharyngeal glands atrophied and only slightly functional. When considering these facts is it any wonder that young bees react favorably and old bees the opposite?

I believe that when bees manhandle a queen, it is because of the behavior of said queen which in turn is directly influenced by the physiological condition, first of the queen and second of the bees in the colony.

Of course, any good method of queen introduction must have quiet manipulation and a queenless condition of the hive with an absence of all queen cells or "eggs in cups."

——— Montana.

That Bee Space

By E. B. Wedmore, England

BEES left to themselves, building in a hollow tree, a skep, or a box, will build combs spaced somewhat less than 1½ inches, secured continuously at the top, and to the side walls, also throughout most of the length of the comb.

Apart from the inadequate support given by the mid-rib, there would be nothing to prevent the cells being pulled out of shape by the weight of honey and bees if the edges of the comb were not fixed. With the edges secured, however, it will be found that the three cell walls meeting at the corner of any hexagon cell are under equal stress, regardless of whether any one of them is horizontal or vertical, but these stresses are, of course, greatest at the top of the comb where the depending weight is greatest.

Occasionally one finds a hole or gap at the edge of the comb large enough for a bee to get through. The edge of the comb at this point is then specially stiffened by additions of wax ingeniously disposed. Such holes are always large enough for a bee to pass. No hole is left into which a bee does not have ready access, for this would provide a hide-out for the wax moth and other enemies.

Near the bottom, however, the comb always stands free of the side walls, leaving a gap of ¼ inch, more or less, through which bees pass. No great weight of comb will be found below this level and the side stresses are readily taken by special stiffening of these edges and of the bottom edge of the comb, this stiffening making a sort of frame.

The bee spaces so left serve an interesting purpose. Without them a bee traveling from one side of one comb to another must needs pass round the bottom. The provision of bee spaces at either side shortens this journey and makes provisions especially useful when in cold weather the clustering bees have to move.

This way of comb building, involving sealing the air spaces between adjacent combs around the top and sides, was well known to the early beekeepers, and it is not surprising then that in all early hives provision was made for the bees to follow this natural habit. Indeed, when attempts were first made to provide separate frames for the several combs, these frames were naturally made a close fit to the sides, and the bees sealed them to the side walls and then followed their natural habit in securing their combs to them at top and sides, save for some bee spaces provided especially at the lower part of the sides. These early frames could be removed intact, but only by the use of considerable force, even in warm weather.

With the increasing use of box hives in the first half of the last century in most civilized countries, one finds many examples of close fitting frames in various forms of hives. Any suggestion to make these frames stand clear of the sides would have been rejected, as contrary to nature, and for this reason Langstroth's invention must be regarded as a great invention. It has been said of many great inventions that after they are made they may appear to be obvious, to involve no invention, to be something that anyone might have done. Here, however, we have an invention of which it may be truly said, any ordinary man would have rejected the idea as absurd, impossible, contrary to nature.

No doubt the intrepid Langstroth must have had some misgivings, and it is likely that all he expected was to have a frame which could be more readily removed than those previously in use, as the bees would not propolize it to the sides, but would put in a certain amount of wax, relatively easy to break down.

Langstroth published his invention in 1851 and must have conceived it some time before that date as he would have needed to give it a season's trial at least before offering so revolutionary an idea for general acceptance. In the history of invention it frequently occurs that great ideas occur independently to two persons who work on them at the same time. Many suggestions have been made of the novelty in Langstroth's invention, but hitherto none have successfully proved any anticipation of the essential feature, the provision of a bee space between the frame and the sides of the hive. It is with peculiar interest that the writer is able at this date to produce evidence of an independent conception and development of this fundamental idea made at just the same time, parelleling, but not anticipating Langstroth's invention.

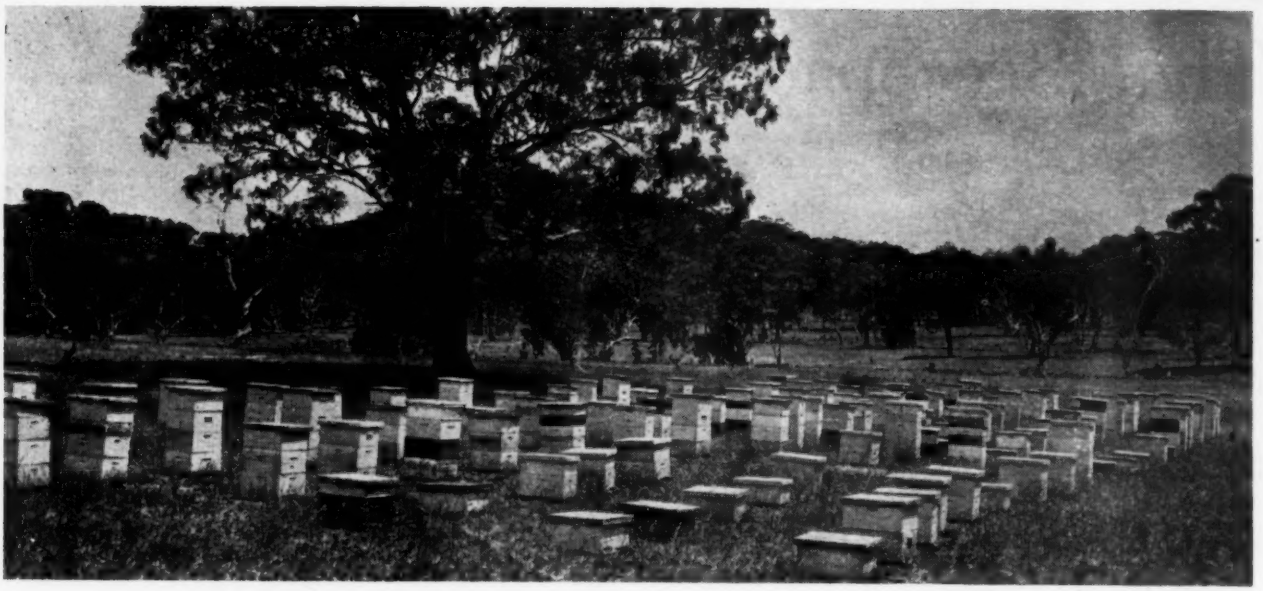
In a recent visit to Paris, I was shown a dictionary of beekeeping in many volumes, in manuscript, written about the middle of last century in which an account is given of the contribution of one M. Debeauvoys to the craft including a description of his hives, giving instructions to make the frames 12mm. narrower than the hives so as to leave a clear space of 6 mm. on both sides. The writer clearly indicated that this construction prevented the wax moth from finding shelter at the sides of the frames and made the frames easier to remove, as the bees would not fill up these spaces with wax.

Reference to a printed edition of Debeauvoys "Guide d'Apiculteur," published in 1846, disclosed a similar hive but without the side bee spaces. Fortunately, however, an 1851 edition was also available and in this the movable frame with 6 mm. bee space at both sides is clearly described and its advantages indicated as above detailed. Now, to get this book published in 1851, with this information in it, it is evident that Debeauvoys must have been trying out the idea at least by 1850, if not before, and unless it can be shown that he was in correspondence with Langstroth, we have another case of great minds thinking alike.

From all that has been said above, we may conclude that in fact the bee never had any objection to a bee space at the sides of the combs. All it required was secure fixing of the sides, and this it could obtain as well within the Langstroth frame as by utilizing the sides of the box. It is interesting to note that the bees in part frequently follow within the frame their old habit in all its details. One often finds a bee space left on either side of the lower part of the comb within the frame, and the comb stopped off short of the bottom as well by half an inch or more as though this was the bottom of the hive.

It is frequently assumed that the bees will respect what is called a bee space in any part of the hive, and it is customary to leave a bee space between the several layers of frames. The bees, however, too frequently fill these with comb, thus fastening the frames together. This is the case especially where the brood nest is divided horizontally, also during a honeyflow when there is not enough space for comb building and wax is relatively cheap to produce. The same is true of the space between the crown board and the tops of the adjacent frames. To avoid the ensuing trouble, it is necessary to arrange that, in these cases, the bee space is made accurately ¼ inch or somewhat less. A weak stock has been known in cold weather to join the combs on adjacent brood frames at the top by a canopy of wax, to reduce excessive top ventilation.

Some bees appear to be more inclined than others to the excessive use of propolis and untidy use of wax.



Apiary among Yellow Box trees in the foothills of the Jacobs River district, about 100 miles from the home base.

Following the Blossom In Australia

By Jack Johnson

MIGRATORY bee farming in Australia today has the two desirable attributes of being both fascinating and lucrative. The industry has extended and developed so much in late years that an apiarist working a group of 250 hives can earn as much as £A3000 in a three-month season. Even the comparatively inexperienced are making more than £A 1000 a year, working between 130 and 160 hives. [The Australian pound is $3.25].

Australian beekeepers' turnover is £800,000 a year but there is no way of keeeping a strict tab on the figure. Many amateur farmers run a few hives as a sideline and sell their honey privately, and no record is kept of this.

There is enchantment in the life of Australia's nomad beemen as they follow the blossom through foothills and valleys at a distance of 200 miles inland, operating through to the Pacific coast from Queensland to Victoria.

Along the Australian costal rivers, through the famous Blue Mountains of New South Wales, across the Southern Alps area, and over the huge

Spreading cyanogas on an ant hill.

Mr. Melville studies eucalypt blossom in a preliminary survey before moving his bees.

At the new site, the unloading begins at dawn.

Murray River on the Victorian—N. S. W. border, the beemen make sweeping pilgrimages for nine months of the years.

Some farmers on a big scale have "stands" of hives in three states at one time.

Migration of the bees is possible because the main honey-producing flora, the Australian native eucalypts, flower in different districts in different periods of the year. The Australian bee farmer therefore has a continuity of blossom supply during spring, summer and autumn. In winter the hives are taken away.

Of about 200 varieties of flora suitable for bee farming the better known are Yellow, White, Grey and Red Box, Red Ironbark, Red Gum,

Please turn to page 495)

After three weeks the first honey removal begins.

Outside Canberra, this post is a central point from which beekeepers spread out fanlike after locations.

The Other Side of Importations

By George H. Rea

THE question of importing bees into this country from Europe, or from any other section of the world, needs calm, unbiased and serious consideration. It is closely related to and must be a part of our bee breeding and improvement program. It will pay large dividends to keep our feet on the ground and all work together in finding the answers.

From the standpoint of disease introduction, the importation of bees must be looked upon with grave concern. At the same time, the way should be open to secure new blood for foundation stock, when needed, but all should agree that this should never be done excepting through a competent scientific agency. The Isle of Wight disease has been pointed out as an example of destructive bee disease that could easily be brought to our shores without such restrictions and well may it be made an example. When Acarine or Isle of Wright disease seemed to break out from a smouldering condition into a blazing inferno, the destruction of bees in whole areas was almost complete. Its spread into Europe was unchecked where in some areas even now it presents a greater problem than does American foulbrood with all its destructive ability in this country. Along with the rehabilitation of war torn countries, beekeeping will be re-established and bees are sure to be transported from place to place, at least we have no reason to believe otherwise. The movement of bees and used beekeeping equipment has always been a chief source of the spread of bee diseases and it is only reasonable to suppose that the Isle of Wight and other bee diseases may be spread to all parts of Europe unless rigid restrictions fully enforced are provided.

The first restrictions on importing queen bees were through the United States Post Office Department, as an emergency measure. Other restrictive measures followed, effectively preventing the Isle of Wight disease from entering this country. With the widespread bootlegging of various commodities, including automobiles, it is a wonder that persons of criminal tendencies have not bootlegged bees with Acarine disease into this country before now. Happily, however, beekeepers on the whole are an honest and law-abiding fraternity. Seriously, however, all beekeepers should watch closely for adult bee troubles and promptly report such cases as soon as they appear.

In consideration of this whole situation would it not be the part of wisdom to forget about importing bees and queens until after the European situation is cleared up and it may be assured that disease-free stock, certified by competent authority from over there, may be secured?

Let us then, take an overall glance at our home situation and some of its possibilities. In earlier days, queens of several races were freely imported and queen breeders took great pride in their particular race or strain of bees. While all of this was mostly unscientific, yet some conclusions about the relative value of the different races were drawn, perhaps more or less correctly and more or less in error. Some queens produced colonies of highly satisfactory characteristics while others were quite unsatisfactory. From the better queens, breeders were selected and some very fine strains of bees as well as some undesirable strains resulted. These early strains, both desirable and undesirable, from the honey producer's standpoint, have mostly disappeared, excepting to leave their imprint in the apiaries of some of the queen breeders of today. Our queen breeders, of today, deserve a high compliment for their efforts to provide the honey producers with the best possible stock for that purpose and have succeeded to an admirable extent. It is an uphill job, however, because of two well-known factors: (1) The almost complete mixture of the bloods of several races of bees all over this country. (2) The genetical factors unknown to the practical beekeeper and over which he has no control, that tend to break down the very worthy work that he is trying to do.

This may all seem discouraging and yet the chief objective in this discussion is to raise the question whether or not, after all, this mixing of races and strains of bees in this country, may not have already produced an American bee with greater virility and productive possibilities than any to be found in other countries. We do know that there are strains of bees in this country that are superior to others and probably surpass any that we used to import from other countries.

Right here lies the function of the already proposed Honey-Bee Improvement Association. The time is ripe for action but this time it can be done only through the whole-hearted cooperation of the honey producers, the queen breeders, trained geneticists and those in charge of beekeeping in Federal and State institutions. If artificial insemination and hybridism can do for beekeeping something near what has been done for animal industry and field crops, it is surely worthy of our best efforts.

Pennsylvania.

Florida State Beekeepers' Association

The Florida State Beekeepers' Association will hold its annual meeting in Orlando, Florida, October 13 and 14. A big picnic is being planned at one of the lakes on the afternoon of October 13. Headquarters will be at the Angebilt Hotel.

C. R. Allgood, Sec.

The Proposed National Science Foundation

By Dr. E. F. Phillips

THE contribution of scientific men to the successful termination of the war is well known. Work on the atomic bomb is the best known and most important effort, but the Army and Navy and civilian government departments found it necessary during the war to employ more scientific men than ever before. The Office of Scientific Research and Development maintained a roster of scientific men and undertook to place them where they would count most. This organization was terminated January 20 and since then a Joint Research and Development Board of much the same sort has been set up by the Army and Navy.

The federal government has long been a large employer of scientific personnel in various departments and independent offices, they being required to conduct the scientific work for which appropriations are made. Various difficulties arise in the maintenance of governmental scientific personnel, such as official limitations on salaries, the feeling on the part of many scientific men that they cannot be bothered by the regulations and red tape of government work, and a variety of other reasons for preferring employment in non-governmental institutions. In spite of some feeling against government work, the government employs hundreds of well-trained scientific men who do excellent work. Government offices sometimes find it difficult to locate enough well trained men for the tasks assigned them, and sometimes are forced to employ men who are not quite up to the jobs assigned. As a result some scientific men outside the government service look askance at the scientific work of some government offices. There is, however, the same shortage of qualified men for outside institutions, but many private institutions refuse to employ men unless they are fully qualified. For most scientific posts, the minimum requirement is now a doctor's degree, and this degree has come to be the place at which to start, not a final goal. The shortage is such that it is sometimes difficult even to locate a suitable advanced student to serve as a laboratory assistant, and this is true in apiculture at present.

During the economic depression of the Thirties, the number of advanced students was reduced, and while there was increase toward the end of this period, the situation was made more acute by the war. Many young men who were starting scientific careers were taken into the armed forces and placed on jobs that did not fit their aspirations. Many were at a stage when they could contribute little to the scientific work required by the war. Many who would normally have been starting scientific careers were unable to do so, and now the educational institutions to which they may wish to go are so crowded that often not more than one in ten can be admitted as advanced students. This all adds up to a shortage of scientific personnel that has attained the proportions of a national problem.

Various plans have been proposed to remedy this situation, and it is usually believed that there is no way other than financial support from federal funds. The training of a scientific worker is an expensive undertaking. Many would prefer that recovery take place without the limitations inherent in government support, but our educational institutions cannot carry the financial load, and because of the personal tax burden, many who would normally be providing funds for private educational and research institutions are now unable to do so. In the 79th Congress several bills were introduced to establish a National Science Foundation, for support of the training and development of scientific personnel for the nation. Difference of opinion arose about the best way to administer such a Foundation largely because of a fear of red tape domination which many scientific men entertain. One proposal was to establish a board of 48 scientific men to serve as an administrative body, another plan called for a smaller board, and still another for a single administrator to be named by the President. Men interested in these bills were unable to reach agreement and the bills all died with the close of the 79th Congress.

Some method for relieving the present lack of scientific personnel seems to call for a meeting of minds, and a united front is essential if Congressional action is to be obtained. It is rather too much to expect that members of the Congress may find the right answer without advice, for there are few men of scientific attainments in Congress. After discussion of this problem in the Council of the American Association for the Advancement of Science at the December meetings, a committee was formed to arrange for a meeting of representatives of the many associations of scientific men to select a working group to carry forward whatever plans were agreed upon, Professor Mather, geologist of Harvard University, being named organizing chairman. Invitations were issued to national scientific associations and a meeting was held in Washington, February 23. About 120 representatives appeared and there were present also representatives of several governmental scientific groups. Because the shortness of the notice, some societies were unable to arrange for representation, but they may take part in any later inter-society meetings that may be held. There was no disagreement that some form of federal support is necessary if the present shortages are to be met. An executive committee was formed to speak for the entire group, President Edmund E. Day of Cornell University being named chairman. Top men in various fields of scientific work were present and there was full agreement on the necessity not only of unified

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The Privets

By August P. Beilmann

At right—
Regel privet five feet high.

Below—
Regel privet in full flower.

PERHAPS no one plant is so widely grown as the common Privet. Virtually, every home in the Middle West makes use of this plant as a hedge or as a trimmed specimen. It will be a surprise to many people to learn that Privet produces flowers and especially that it is a good bee plant. Almost all of the species are easy to grow; they have no special insect pests and they are relatively free from diseases. The lack of winter hardiness in some of the species and varieties is the only reason why they could not be grown wherever bees are kept. There are about 14 species and a great number of horticultural forms. Naturally, there is a good deal of similarity and only a few need be mentioned because of their superiority from the beekeeper's standpoint.

A hardy one for northern locations is the Regel Privet **(Ligustrum obtusifolium Regelianum)**. This is a very satisfactory plant of good form, growing to a height of six feet. The horizontal spreading branches tend to make the plant twice as wide as it is tall. It is very satisfactory variety for naturalizing in a part of the garden where it can develop naturally. When not sheared or trimmed, it is extremely floriferous, very fragrant, and a great favorite with bees.

The next variety of dependable hardiness is the Common Privet **(Ligustrum vulgare)** and its many varieties. This is a half evergreen shrub attaining a height of fifteen feet, and the only Privet from Europe —all the rest are Asiatic. It flowers ten days later than Regel and remains in flower about two weeks. The foliage is rather large, glossy, and dark green.

The California Privet, **(Ligustrum ovalifolium,)** is the Privet which freezes in the Middle West during the worst winters. A hybrid between this and the Regel, known as Ibolium, is hardier than the California Privet and of somewhat better growth habit than Regel. This is probably the best of the smaller Privets and the only rival of the Regel.

One more variety is the Quihoui Privet, **(Ligustrum Quihoui)**, from China, and distinct because it flowers in August, five weeks later than any other Privet. It is not as easily grown nor as attractive as the other species, but is valuable because it would extend the flowering period into late summer.

This does not exhaust the list of varieties which are available, but it does include those of the greatest value and dependability. Privets take very well to naturalizing in a woodland border. They usually retain their leaves until cold weather and they make excellent wind breaks. The halfevergreen European Privet, would make a wind tight hedge tall enough to protect any bee yard. If the Regel Privet and the Quihoui Privet were also used, they would provide pasturage for six weeks. It must be remembered, however, shearing does not permit the plant to assume its natural shape and this is the chief reason why

the species is seldom seen in flower. It is usually thought of as a foliage plant but if it is left to grow to its full size before shaping, it will produce some flowers each year, even though a shear must then be used to keep the plant within bounds.

Missouri.

Pollination in Russia

It has been found that seed for 150 kinds of crops require cross-fertilization. In areas where bees are used for this purpose there is always a greater seed crop. Cross- fertilization not only results in bigger yields but it improves the quality of the seed and the taste of the fruit. Economically the honeybee is ten times more valuable as a fertilizing agent than it is for the production of honey and wax.

(From Agricultural Committee for American-Soviet Friendship, Inc.)

Production in the Future

By T. J. Wells

I wonder how many of you people have thought about the worn out land in Oklahoma. What do you think is going to become of it and the other pretty good land that may follow it and wash down the rivers of Oklahoma. If it keeps going at the pace it has washed away in the past twenty years, the farm houses are going to get farther between than they are now.

The health and growth of people and animals reflect the productiveness of the land. The people of India and other countries of the old world are shorter than the Americans because their land has washed away, and has been farmed for so long.

Now some people realizing this, are trying to take care of the soil and bring back its fertility, by hauling corn cobs and cotton hulls and spreading them on the land. But you know there is not enough corn cobs and cotton hulls to put on all the worn out land.

We have decided that the best way to get more humus on the land is to raise legumes such as vetch and clover. A field of sweet clover will put from one to five tons of humus back per acre, and deposit a lot of stored nitrogen. I might add that a crop of oats or wheat following sweet clover will in some cases double the yield. A crop of hairy vetch will leave from one to four tons of humus per acre, also nitrogen and a protective mulch that will protect the land.

But with legumes growing on our land we have to have seed, and to produce sweet clover, hairy vetch and alfalfa seed successfully you have to have honey bees for pollination. On some of our ground we tried to produce vetch seed without bees and 125 lbs. per acre was the maximum amount of seed produced. But after applying bees for pollination some years ago, we have produced 350 lbs. per acre. Now the difference between 125 lbs. and 350 lbs. per acre means the difference between a profit and a loss. I say the people of Oklahoma are going to be planting more and more legumes in the future. But we are going to have a time keeping pace with bees for a good pollination job. Now that is strange, that a healthful program of farming, that will protect the land and make it better depends solely on the honey bee, our little friend that goes from flower to flower to assure us of a seed crop, so that our crop rotation can continue. Well, they always say that, "it's the little things that count."

Bees are going to be one of the essentials on the farm in the future. Can you imagine a farmer raising a crop of corn and letting it fall down and not gathering it. Well, that is just what a lot of farmers are doing, letting a few tons of honey fall on the ground and dry up, just by not having bees to gather in the crop. Also several tons of legume seed because bees are not used to pollinate the crops. Over the United States tons and tons of honey go to waste, because there are not enough bees, and tons of seed are not produced for want of enough bees.

What we need more than anything else in agriculture is for the United States to have more beekeepers, and if we employ the services of our little cold blooded friends, that produce, "the finest food on earth," then we will have a healthier farming condition, and through the use of legumes our land will stay put. It will get more productive instead of washing down the rivers and on to the sea.

Oklahoma.

Mating Witness

The condition that made it possible for me to see the mating of a queen with a drone was cloudy, rainy weather for the first six days of June and then on June 6 a sudden break in the clouds for the sun to shine through. It seemed like all the bees in my yard took to the air for flight. About four or five feet above my head and at exactly the right angle were about a dozen drones in pursuit of a virgin. They were flying slowly and close together with all the drones trying to reach the queen. In about thirty seconds one of the drones mated with the queen and then the entire flying cluster dropped down quite a distance; the queen and the drone separated and all the drones flew away.

Guy Diemer, Missouri.

The Law and the Double Barreled Shotgun

With reference to the item by Dr. Haseman in May and by H. J. Weis in June which recommend a double barreled shotgun and 37 mm shot to bring down a swarm beyond reach, we tried it and it did not work. We shot off the limb and the bees came tumbling down only to settle again on another limb just as high. This continued three times and then we had to stop as the law came to the rescue of the little pets. We finally cut the limb they were occupying and when they hit the ground we placed a hive by the bees and made them go in. The limb was cut off just before sunset.

Henry E. Puchta,
Washington.

Tracing Sulfa Sirup

There is still argument and uncertainty as to what happens to sulfa sirup when it gets into the hive. Is part of it stored as honey? There is a simple means of tracing the sirup. Add a few drops of vegetable color, (for instance green, as used for mint jelly) and any stored sirup will show up beautifully.

William A. Kyburz, Colombia, S. A.

What About Gentle Swarm

A swarm of bees, according to an Associated Press item, attacked Clarence Felpel, when he attempted to remove them from a tree without veil or gloves and apparently without a smoker. The bees chased him across the field and he collapsed as he dived into some bushes.

Arejas Vitkauskas, New York.

Dr. E. J. Dyce and daughter Marilyn. Dr. Dyce is in New York State where bees are needed in fruit orchards for pollination.

Fruit Pollination and the Bee Poisoning Problem

By Dr. E. J. Dyce

(Excerpts from a paper delivered to the New York State Horticultural Society at Rochester, New York)

THE increased use of poisonous insecticides, especially when used in the form of dust, has not only forced many beekeepers to move their bees from the intensive fruit areas, but has reduced the number of smaller apiaries and has reduced the number of other pollinating insects in some areas almost to the vanishing point.

During this continuing reduction in the numbers of pollinating insects in the fruit areas, there has been a steady increase in rental of colonies of honeybees for pollination services. Every year some injury to these colonies from arsenical poisoning is reported, and every few years hundreds of colonies are killed and thousands of colonies are so weakened that they become a liability rather than an asset to their owners.

In the spring of 1945 the heaviest losses appeared to take place among colonies permanently located near orchards. In the spring of 1946 practically all the colonies rented to fruit growers in the Hudson Valley and in the fruit area of western New York lying east of Rochester suffered heavily. Most of the trouble during the past two years resulted from bees picking up moisture and pollen which was contaminated with arsenicals.

To cite an example, a visit to a decimated apiary of 60 colonies revealed that most of the colonies were completely depopulated and there were not enough bees left in the remaining colonies to fill two normal hives. Thousands of bees were lying out in front of the hives and practically all the brood was dead.

Samples of bees revealed that more than enough arsenic was present to account for their death. Two or three micrograms of arsenic per gram of pollen will cause the death of bees. The analyses of hive pollen showed 72.25 micrograms of arsenic per gram of pollen.

Of all the insecticides used in fruit orchards, arsenic is the one that has consistently caused the greatest losses. Since so few colonies are now left in the fruit areas, attention during recent years has been focused on avoiding harm to colonies which are rented for pollination services. These colonies pick up poison in different ways. During cold wet periods when no fresh nectar is available, the bees draw on their reserve supplies of honey. Honey is diluted with water before the bees feed it to their young. Many bees collect water and obtain it from the nearest sources.

During abnormally hot, dry springs the bees also collect moisture and thousands of bees may be found dead around the water tanks and in wheel tracks of spray rigs. When this occurs the mortality of adult bees is so great that many colonies perish.

The most persistent loss takes place when bees gather and store pollen from open sprayed blossoms. Until all this pollen is consumed, the loss of young bees and developing brood is so great that it may take weeks or months before the colonies are able to build up to normal strength.

When heavy losses occur to bees while they are in the orchards, the fruit grower as well as the beekeeper suffers, as the field bees are often destroyed before they have a chance to pollinate the blossoms. With this loss in mind some fruit growers are

no longer using arsenic in their preblossom sprays. Colonies in such orchards have consistently shown little or no loss from poisoning and in many cases have actually gained in strength during the blossoming period. If arsenic could be eliminated in the spray schedules until after the bees are removed from the orchards, much of the present loss would be avoided. An added advantage is that beekeepers would be more willing to rent their colonies.

During the past two years much attention has been given to the new insecticide, DDT, and beekeepers from coast to coast feared that this poison would ruin them. Observations during the past year indicate that if DDT is used **as officially recommended,** it will not seriously hinder the beekeeping industry. When DDT is applied to plants and trees when they are not in blossom, serious injury to bees is seldom reported but when it is applied during full bloom, losses are almost as severe as from arsenic. During the past summer DDT was applied to a large area of alfalfa on the west coast, when it was in blossom, in which case over 60 per cent of the field bees in this area were destroyed.

Many beekeepers are of the opinion that if an insecticide must be used in some orchards to control insect pests before the trees come into bloom, it would be safer to use DDT instead of arsenic. They know the damage from arsenic and believe that no insecticide could be worse than this poison.

During the past four years considerable attention has been given to dinitro thinning sprays applied during full bloom.

Tests in the college apiary and laboratory at Cornell University showed that when dinitro compounds of normal concentration are mixed with weak dilutions of honey and water, the adult bees readily feed on the mixture and most of them die within a few minutes. Dinitro products are therefore poisonous to and not repellent to bees. These early experiments also showed that when colonies were fed pollen to which dinitros were applied to duplicate as closely as possible the concentrations commonly used in the orchards, about 35% of the adult bees and about 35% of the developing brood were destroyed.

Observations in the field presented a less discouraging picture. Several orchards were visited in which dinitro sprays were used on a few trees and in which colonies of bees were introduced. No alarming number of dead bees were found under the trees or in front of the hives.

When dinitros were applied to the trees, the bees immediately stopped visiting the blossoms but gradually returned as the spray dried. After the spray had dried, the number of bees visiting sprayed and unsprayed blossoms were counted and it was found that the bees visited sprayed flowers of some varieties of trees more abundantly than unsprayed blossoms. One explanation of this phenomenon is that perhaps more nectar is present in nectaries of blossoms that are burned with dinitros, since the sugar is stored at the base of the flower for use by the ovule after pollination.

Since bees readily gather and store pollen on which various poisonous

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About Snakes

By Ernest A. Fortin

IN my many years of bee inspection work I have encountered snakes around beehives about every year, of all of our local species (Quebec) and of all sizes, nearly four feet long down to less than ten inches, from big black snakes to little green grass snakes. There are few poisonous snakes but it is always best to make sure before one attempts to disturb them. It is easy to recognize bad snakes here from harmless ones. Poisonous snakes almost always have a triangular head, the harmless ones have a flat head almost like an eel.

I have never seen a snake eating bees but they seem to like to be around beehives and sometimes make their summer home under them. I think honey is the main attraction. Some five or six years ago I found a small snake not more than ten inches long on the bottom board inside the hive. It was stung to death, completely covered with propolis. On another occasion I found a beautiful snake completely coiled in front of a hive, basking in the sun. Half the coil was on the ground, the other half on the alighting board and its head sticking out and up nearly six inches in the center of the coil. As long as I made no attempt to disturb it, it did not move but kept a sharp eye on me. I had to go through that hive so I hunted up a long stick, but when I came back, like a stroke of lightning it started off. I finally killed it and was then sorry for it was harmless. It is known here as an orchard snake and very useful in destroying insects and field mice. It was one of the most beautiful snakes I have ever seen. We are apt to kill small animals such as harmless snakes, toads, frogs, birds, etc. which are useful in destroying insects. Beekeepers should at least not do this. The increase of insects will reflect back on them in the use of arsenical sprays.

Quebec.

Our Future Markets

By Ralph Barnes

Now that honey prices have actually receded to much lower levels from the high of a few months ago, there does not seem to be much more interest on the part of the honey-eating public. Does the timid buying by both the jobbers and retailers mean that honey prices are going down still more? If so, how far down? Can anything be done to stop it from going lower in price?

The very fact that there is an unsettled market condition and that buyers seem unwilling to buy, except at very low levels, shows that there is doubt and uncertainty. Everyone is waiting to see what the size of the crop will be and what effect the larger supply of sugar and other sweets will have in retarding honey sales. If it is good business on the part of the honey buyers to await developments before buying, it might be very good business for the producer to hold off selling until the market is more certain, for it can go up just as well as down. The fact that all food prices continue to raise to higher levels and that food supplies of every kind are in short supply, and may be even more so before another food crop is produced, makes it seem unwise to sell any food product at a low price right now.

In the past honey has been sold on a price basis alone and the seller who had the lowest price got the more favorable market position. This would be a very bad time to allow anything like that to get started again and there is no reason why it should if we will just use a little common sense. Why should every beekeeper rush out and dump his honey upon the market just as soon as he can get it in the can? Honey moves much better in the colder months. Why create the effect of a huge crop that will depress the market, just to get the crop sold, at whatever price he can get? Why force it on an unwilling market? A cheap price will sell no more honey than will a price in line with other like foods. What are some of the basic causes that govern honey prices? Is it the amount of honey produced or is it the competition of other sweets.

Honey production will likely drop below last year's figures of 225,000,000 pounds and at best we can produce less than two pounds per capita. Surely we cannot say it is overproduction that will cause honey prices to go down. Many people have been using honey in the past few years who never used it before. Will they desert honey now that other sweets are back in good supply? The answer to that one is YES, unless, we advertise it adequately. In the din of the many products that are advertised day and night any product will be forgotten that is not advertised just as loudly and persistently. Our industry is very fortunate in that honey has a magic appeal to everyone, both young and old. It is one food product in a class by itself. It has no real competitor but it does complement and blend well with many other foods. When will we learn to advertise honey as it should be advertised and when will we learn to quit trying to make honey a competitor of sugar and foods such as jams and jellies? All that is needed is to advertise honey as one of the world's fine foods and then produce it in large enough amounts to supply the demand and of uniform and dependable quality, so that it will never disappoint the consumer.

How can honey be advertised and who should put up the money? It should be apparent by now that it is up to the beekeeper to put up the money to advertise his own product. We say that it will cost a lot of money to advertise honey in a big way. My answer is—Yes it will cost a lot, but not as much as it will to sell honey on a price basis alone, as we have done in the past. Honey prices went down to the vanishing point, as you well know. Would it not be better to chip in a good round sum for advertising, than to have honey go down to the old levels? If we could get a good fair price for honey and maintain that price by a good advertising program, we would be making ourselves real money and we could well afford to put up three, yes, even five cents, for every pound of honey produced. Suppose we could get two cents a pound on ten million pounds of honey for an advertising campaign. This would mean $200,000 and if this advertising would maintain honey prices that would net the producer even ten cents a pound every year, it would certainly be a big thing for our industry. Even after taking off the two cents we would still net eight cents, which is one-third to one-half more than we did get, and I am speaking of conditions and prices as they were before the war, to illustrate my point. This advertising campaign could be handled by our American Honey Institute. If they can accomplish with a few dollars the results they have, what could they do with a real advertising fund?

Why do I think advertising will get a better price for honey and maintain a steady market for it? If you will review the case of the citrus industry and its phenomenal growth after they organized and begun advertising, or the fruit industry, you cannot help but realize the power of advertising. During the war one announcement by Bob Hawk on his program asking for decks of playing cards for soldiers brought in over 900,000 decks.

Similar cases are on record by the score. We can be certain that honey prices will return to old levels when things return to normal and there are plenty of sirups, jams and jellies, and of course sugar, competing for the trade dollar, unless we do advertise honey in a big way. We can be certain also that if we do advertise our product, we will need to be ready to increase production to meet the increased demand. Just the past year, one large, nationally known packer of food products had to abandon honey because they were unable to secure enough honey to make it a worthwhile business venture.

This was a serious blow to our industry. This is an obligation that will go along with an advertising campaign. We will have to learn how to produce more honey from each colony and this will mean that we must solve our disease problems as well as to breed better breeding stock that is capable of higher yields and we must also solve the poison problems. This calls for intensive work on the part of all of us—the queen breeder and the honey producer

alike—for our problems are one. What concerns one group concerns both. If one prospers both will prosper.

How can we arrange our affairs in such a manner as to put this program into action? First and foremost is the necessity of working together, and we can only do this through good, strong organizations, adequately supported, such as we now have in the American Honey Institute and our National Federation. These organizations could be given the job of setting up the machinery for collecting the funds and making the plans for the work that will have to be undertaken. The problem of raising the funds could be done, perhaps, by authorizing all packers or buyers of bulk honey to retain so much per pound from all honey purchased by them and turning this money over to the treasurer of our organization for advertising. Or, we may have to reorganize our present setup along the same pattern as the fruit growers' associations. But some workable plan could be formulated if we were in earnest and wanted to do so. We have only two choices—to go along the old way, and take whatever price we can get, or to get together at our next national meeting and formulate plans that will put honey on the consumer's table. We have all enjoyed the good prices and the feel of a well-filled pocketbook. It will be hard to come down to old prices again.

Nebraska.

The Proposed National Science Foundation

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action but also regarding the need for federal financing.

Bills have been introduced into both Houses of the present Congress for the establishment of a National Science Foundation. Four House bills are the same as Senate bill S. 526, which is in turn the same as the Magnuson bill S. 1285 of the 79th Congress. These provide for an administrative body of 48, each to serve for eight years. Senate bill S. 525 provides for a smaller administrative board, and there are certain other minor differences, but they all make provision for federal financial support. At a hearing on March 7, one lone scientific man protested against any Foundation, but all others agreed as to the need.

There is general agreement in scientific circles that the kind of scientific work which should be supported, and for which a larger personnel is required, is in fundamental research, not the routine testing of old scientific theories. It was basic research that so vastly helped in the war period, and it is a trained personnel capable of fundamental work in which the deficiencies now occur. This plan of attack on scientific work in general makes this proposal of increased significance for apiculture, for it is in the field of basic science that beekeeping is most deficient. There is no marked shortage of men interested in testing local applications of some method of wintering or some other aspect of beekeeping. There is no shortage of men prepared to conduct orchard tests of such problems as the use of bees in pollination. What apiculture lacks are men capable of more fundamental work, even though at the moment it may not be too clear how the results may be applied to practice. Testing methods for immediate application is not especially important, either for immediate usefulness or for the building of beekeeping into a sound industry. Basic problems on the behavior of bees in their several fields of activity, basic work on the physical or chemical properties of honey and other products, are lines of inquiry which give promise of ultimate application and greater significance in practice. A few trials in the feeding of some drug for disease control or the testing of a few more methods for wintering bees may be interesting, but they rarely furnish basic scientific information, and when the tests are completed we have little except more material to encumber the literature. What we get from such superficial work are more unsupported guesses.

If the federal government provides support for the training of more people in fundamental scientific work, funds would be available for basic work with bees as for other fields. It is not proposed to allocate the funds on any geographical basis, to any special institutions or to any particular group or field of work, but to see to it that when a plan for work of a fundamental nature is made, funds would be available to carry it out. It is also proposed to provide for the training of more people in fundamental scientific work, again attention being directed to the basic nature of their training. No funds are to be made available for undergraduate training, since in his undergraduate days a student has not demonstrated his research abilities, and this is not a plan for supporting a program in general education. With such financial support we may hope that basic training and basic research may be supported in numerous institutions, not limiting such support to institutions especially designed for education and research in agriculture or other vocational lines. Perhaps by some such plan this country may develop a von Frisch in bee behavior or a honey physicist or honey chemist who can provide the industry with much needed information in fields that are the very foundation of the beekeeping industry, not part of its superstructure. The proposal looks promising, and the beekeeping industry needs it.

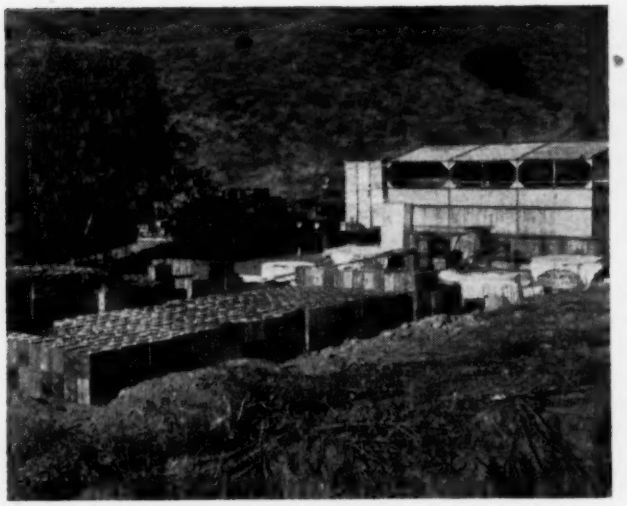
Demands For Pollination

The demand for bees for pollinating fruit, alfalfa and other crops is on the increase in Utah and generally, according to G. F. Knowlton, professor of entomology of the Utah Agricultural Experiment Station. Utah fruit growers make early arrangment for bees for orchards and for moving the bees out before spraying. Bees brought into alfalfa seed areas materially help to increase seed production and are responsible for a bumper crop of alfalfa seed in Millard County.

Glen Perrins, Utah.

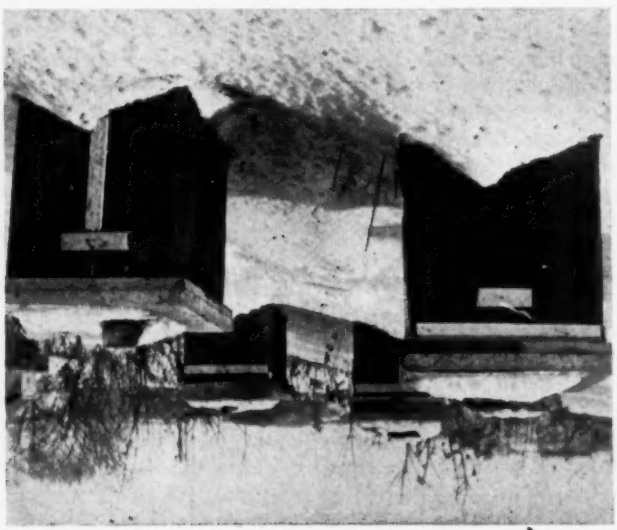
Halt Bees With Dynamite

Rev. Wm. H. Elges, Iowa, sends a newspaper item about C. E. Mincer, orchardist and beekeeper, near Hamburg, Iowa, who had to use dynamite to stop an attack of bees. He was working at one hive when the bees from another one poured out after him. He tossed the dynamite which he had brought to blast a stump and pressed the detonator. The blast ended the attack. He had nearly two hundred stings nevertheless from the invaders.



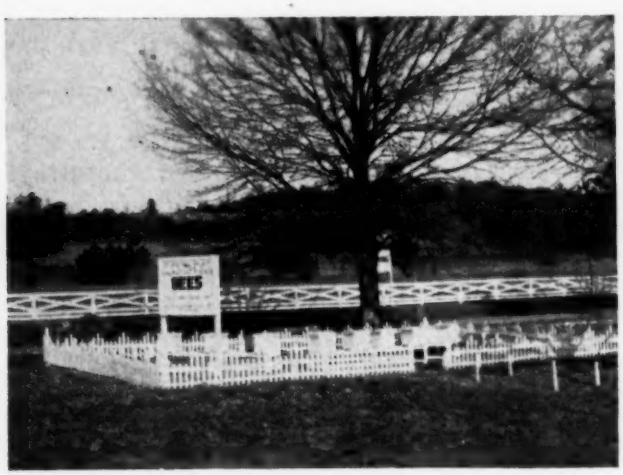
In the west, where the rainfall allows outdoor storage, cases of honey may be piled like this. Most of us would have been delighted with crops like this during the time of high prices.

Lima beans yield three measures when there were no bees for the blooms; with bees the yield was increased almost a full additional measure. We are just beginning to see that, as Pellett says, "The bees are the spark plugs of agriculture."



Wrapped colonies in January. At 38 above the bees had a cleansing flight and some of them were left on the snow. The top entrance is now generally used.

A mechanical lift truck used with a two-stack super platform makes it possible to move as many as twenty supers at a time wherever they may be needed in the honey house.



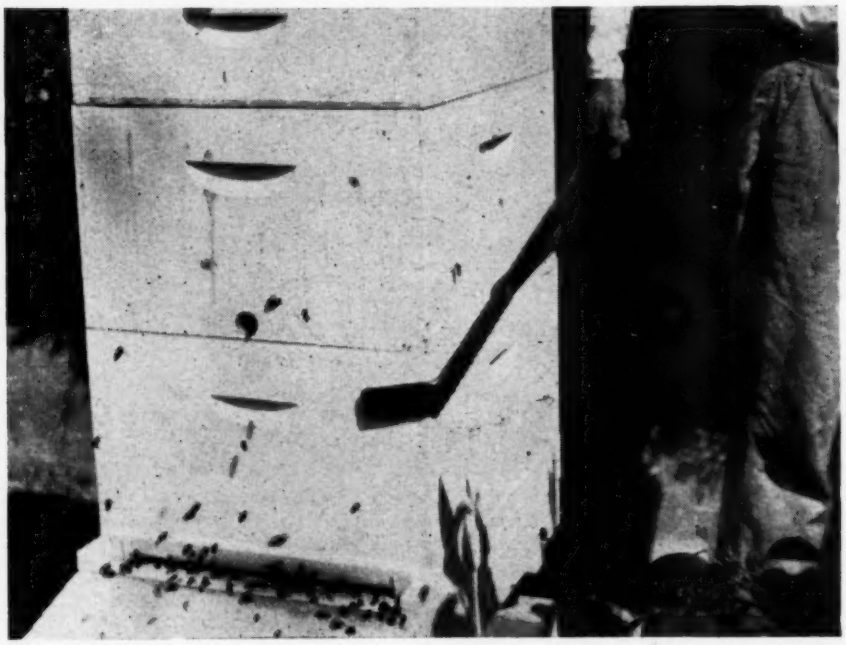
A fenced in yard and apiary sign. Model of neatness. Most of us dream of having yards of equal beauty but few achieve the result. The more bees one has, the less time there is for the extra flourishes.

Dr. O. W. Park and his assistant Bruce Breckinridge of Iowa State College, in the American Bee Journal honey plant garden at Atlantic, Iowa. Many visitors and research men may be found there almost any time.

DEPARTMENTS

BEFORE someone accuses us of trying to play heavily on the pollination theme, let us admit that we are doing just that. Here John Allen of Indiana pictures the fruit that the bees help to make. It would be fine if there were equally good pictures of each of the fifty-four crops that the Department of Agriculture says bees benefit. These must be Allen's grandsons as they appear in so many of his pictures. They do a grand posing job. Let's have some more, Mr. Allen.

HOW TO DO IT



A Hive Lifter

Charles J. Koover, Altadena, California, uses this hive lifter. The details are not clear from the picture but its general construction seems obvious. There are many hive lifters, separators, or whatever term may suit, in use by many beekeepers, some costly and elaborate and some, like this, simple and inexpensive.

FOR WINTER

Many colonies that start winter in two or three stories will be weak by spring. It pays to reduce them to a single story. When the bees are in the top where most of the winter's food should be this is the part to winter. In spring when they need room more can be given.

Harry T. Starnes, Indiana.

PLUGGING THE TOP ENTRANCE

To plug the five-eighth inch auger holes used for winter entrances and ventilation I use small pieces of newspaper, crumpled together and pushed into the holes. It is better then cork. It does not interfere with the use of the handholds and the bees do not chew it. For permanent repair of these holes I use plastic wood backed up by a piece of section material nailed on the inside of the hive body.

E. G. Kyte, Pennsylvania.

A QUICK LOOK

Here is a suggestion for examining a colony quickly without crushing bees and getting the colony stirred up. Remove the second comb from one side and after looking it over place it near the front of the hive so the bees may crawl back in. Then examine the first comb and replace it. Then lift out number three and put it back in the space left by the second comb. Continue this way, replacing four in space three and so on, putting comb ten in its own place. This method also does not disarrange the place of the honey, pollen, or brood seriously.

Jonathan Gell, Pennsylvania.

CANS FOR WASTE BASKETS

Sixty pound cans make nice waste baskets. Remove the top from one with a can opener, using an opener that will cut a smooth edge. Put a nice decal on the front or any other paint or trim you wish.

Mrs. Guy Polley, Iowa.

USE FOR PACKAGE CAGES

Old bee cages make fine cellar storage for carrots and other vegetables. They are mouseproof and the air can circulate freely through them. They also stack up so as not to take much room. I also use the sides and ends to make bird houses.

Mrs. Augusta Polley, Iowa.

MOVING

For moving bees I prepare my entrances in this way: Rip each entrance guard down the center a little deeper than the full depth of the entrance hole. In the saw kerf, insert a strip of window screen, outside edge preferred. Place this on the hive in the evening when the bees are in. Then they are ready to move with abundant entrance ventilation.

Leonard E. Jackson, Michigan.

FOR VENTILATION

On hot days bees may need relief to prevent clustering out. Place a block between the hive and the bottom board at each corner. In lifting the hive the bottom board will tip upward also. To prevent this use a wrecking bar supported underneath by a block, and pry downward. This makes the placing of the blocks an easy task.

Julius Lyons, Wisconsin.

HOLDING SHELLS TRUE TO NAIL

Hive bodies and super shells that are not kept square and true when nailed are wabbly and often a nuisance in use. I use a jig that permits their being kept in a true and square plane while being assembled and nailed.

W. P. Kinard, Mississippi.

WHAT YOU WANT TO KNOW

Ludwig Alzant (Minnesota) has trouble wintering. The bees have plenty of stores but many bees come out in the basement in cellar wintering. The basement is dark and there is no disturbance.

In the cellar the temperature must be right, near 40 degrees or at whatever point the bees are quietest. The cellar must be dry and have good ventilation. Most beekeepers have given up cellar wintering. They put the bees outside in well-sheltered spots away from winds, often with additional artificial windbreaks and with top entrances.

* * * *

Joe Pennington (Tennessee), in September, tells of a colony strong all summer and seemingly all winter yet in spring the bees were dead with plenty of stores.

George F. Knowlton, Research Professor of Zoology and Entomology, at the Utah State Agricultural College, says: "This case reminds of bee losses which occurred commonly in Salt Lake County, Utah, during 1942-43 and 1943-44 when hundreds of colonies died in fall and winter among ample stores of honey. It was usually associated here with arsenic present in the pollen. We lost young hive bees heavily during late summer and fall. Such crawling and dead bees showed high arsenic content on chemical analyses."

* * * *

Jack Bradford, of Montana, wants to know how to get bees out of supers from which they have been removing the extracted honey after the crop has been extracted.

It only takes a day or two for the bees to clean up these wet combs after extracting and then the supers can be taken off the colonies and stored. If you have bees in them drive them out with carbolic acid. If the weather is still warm and you chose to do so, you can leave the combs on the colonies above the inner covers with the center hole open as a protection for moths until you wish to store them later. Store the supers so they will be in freezing cold during winter. That will kill most of the moths and protect them late in the spring. If supers have to be stored before this they must be fumigated.

* * * *

Ida E. Rhode, of Iowa, wants to know about using a food chamber on the Modified Dadant hive for winter stores.

We usually leave a super of honey on the Modified Dadant hive for winter stores. In earlier years this was not done but the difficulty of crowding the bees in fall since we have a fall flow, so that the hive bodies would be filled sufficiently for winter, became too great. Food is automatically provided for with one shallow super full of honey.

* * * *

S. M. Patte, Clover Blossom Apiaries (Iowa), has had glass jars that seem to "etch" so that it is almost impossible to clean them, especially when they are held over a year or more.

This condition often occurs when the jars are stored under extremes in temperature; cold in winter, and heat in summer. There was considerable difficulty with this several years ago but now the glass companies seem to have it pretty well ironed out or at least reduced to a minimum. Storage where the temperature is constant will be of help.

* * * *

William T. Brown (Massachusetts), has difficulty with Modified Dadant hives in keeping queens out of the supers. He knows we do not approve of queen excluders but wonders how to keep the queens out without using them.

Often the queens do go into the shallow supers, especially when the flow is slow or when supers are added before the start of the flow. Oversupering will increase this trouble. Yet we do not use excluders. Do not add supers faster than the flow warrants. Toward the end of the flow make sure that the supers already on are entirely full before giving more. Under these conditions the flow will end with little brood in the shallow supers.

* * * *

Clyde Ware (Kansas), has twenty-five colonies of undesirable bees in box hives. He wants to take what honey is available and get rid of the bees.

A teaspoonful of cyanogas at the entrance of each colony will kill the bees promptly. This gas is deadly to humans, as well as to bees, so care must be used with it. The bees can be kept over winter, however, and transferred to modern hives in spring. If they are killed, then the old boxes may be torn apart, the combs removed, the honey strained out and the wax rendered for sale or used in exchange for supplies.

Bee Gloves

I have been using synthetic rubber household gloves for two years for vicious bees. They are ideal. They give you freedom and delicacy of touch of the bare hands and the few stings you get are ineffective, the rubber probably pushes back the poison. The bees are reluctant to sting into the rubber, either that or the perfume of the cheap talcum powder used inside for putting on the gloves repels them. However, they are expensive, they tear easily, and some people do not like the accumulation of sweat in the glove.

Wm. A. Kyburz,
Colombia, S. A.

Minor Sources

As the Federation News Letter (June) points out, one of the most neglected points in the whole field of nectar and pollen sources for the maintenance of the colony between major honeyflows and for building up large colony populations for pollination service is that of minor sources. This is of critical concern and stresses the importance of nectar and pollen plants as ornamentals, for roadside plantings and for erosion control.

American Honey Institute

Commercial State Bank Building, Madison 3, Wisconsin.

●

NATIONAL HONEY WEEK—the last week of October—October 26 through November 1. Remember those dates, for every beekeeper and honey packer will want to observe National Honey Week, and help make it the nation-wide event it should be.

National Honey Week is scheduled for the very time when you have the most honey ready for market. Use it as one of your important selling themes. The Institute has special literature and window streamers for your use during National Honey Week and throughout the year. The four-page National Honey Week leaflet contains seven carefully chosen recipes as well as honey facts and hints for honey usage.

There's still time, but don't delay; place your order right away.

* * * *

Just received at the Institute: Material from the October proof book of a large advertising agency. This agency furnishes mats and copy to newspapers throughout the country. Now it is suggesting National Honey Week to food dealers as a basis for their October selling program. Good pictures combined with interesting copy make good promotion for them as well as for honey.

* * * *

Perfectly timed! Good honey publicity will be included on the "Crime Photographer" radio program of October 30—just in time for the celebration of National Honey Week. Make it part of your observance of Honey Week to listen in at 9:30 P. M., Eastern Standard Time. No honey producer should miss it.

* * * *

We have received so many orders for our nutritional bulletin, HONEY, that another printing is being made. This booklet contains facts about honey that everyone in the honey business should know; facts that should be passed on to every honey user.

* * * *

More news from our literature department concerns the attractive six-page leaflet, **Make Every Meal a Guest Meal with Honey Recipes.** The convenient size and shape of this leaflet, which fits neatly in the top of a five-pound pail of honey, has created such a demand for it that a revised edition is now on the press. The revised leaflets contain a new selection of recipes covering a wide range of uses for honey.

* * * *

Those were wise people who displayed NEW FAVORITE HONEY RECIPES at their fairs. Many women who saw the books at the fair are now writing for extra copies for their friends.

* * * *

Ever since the publication of NEW FAVORITE HONEY RECIPES, there has been a flood of congratulatory letters coming to the Institute. Each letter is different from the others, pointing out some feature of the book that is especially important to the writer. For example, this is what an important west-coast food broker has to say:

> "I have before me your **New Favorite Honey Recipes,** and I am very much impressed with this recipe book, not only from the standpoint of the recipes therein but its potentiality in building up a demand for the sale of honey, which is evidently one of your Institute's foremost thoughts. I am wondering if these recipes are available for distribution through stores to their customers."

* * * *

There has been a flood of requests for leaflets of honey recipes this month. A western food editor told of them in her column one day, and as a result more than 1,000 women have written for them. There is a big demand for good honey recipes!

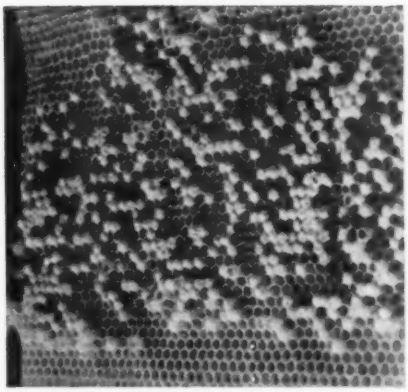
* * * *

Your membership in the American Honey Institute is important. It is important to the honey industry because it means a wider market for honey. It is important to you because the greater demand means greater profits for you.

Roy Littlefield of Exira, Iowa, uses this hive. Here it is packed for winter. The top food chamber has a lower entrance. Note the alighting strip.

When honey leaves the top strainer in the storage or settling tank, don't let it plop down into the bottom. Lead it down in drain pipe channels so it moves easily and slowly. The honey will be clearer.

It is wood mint and the flower arrangement is quite similar to horsemint. Pellett lists it as an ornamental and a good source of nectar.



Most of us know that this brood results from the eggs of a queen whose fertility is completely gone so the eggs produce only drones; or that the brood is from the eggs of an unfertilized and laying worker bee. Often the queen's brood gradually shows failure and the queen may be replaced before she is no longer of use.

The bees in this hive became crowded to the point where they relieved the situation by coming outside and continuing their combs in the open air. Usually a colony crowded much less than this one will swarm under favorable conditions.

Solidago graminafolia, bushy goldenrod, is a fine honey plant. It is quite prevalent in New England but it is also frequently abundant in the North.

Following the Blossom In Australia

(Continued from page 481)

Appletree Stringybark, thistles and shrubs.

Some apiarists move only around their own districts, making occasional journeys further afield when no worth-while honeyflow prospects are evident in the local fields. The professional migratory apiarists, however travel as far afield as 500 miles from the home base during the nine working months of the year.

They give special attention to making the trip as comfortable as possible. Caravans equipped with sleeping quarters, kitchen, radio, and other amenities, similar in design to those usually used by visitors to seaside resorts, provide a home away from home.

Bees are nearly always moved at night unless the weather is on the cool side.

Before moving from one location to another, scouts for the various apiarists go looking for the eucalypt bloom. These scouts are helped considerably by the fact that eucalypts begin to form buds about 12 months ahead of their flowering period. This gives a beekeeper wonderful opportunity to select his apiary sites well ahead of the actual flowering of the species in which he is interested.

In changing location, trips of up to 250 miles are made overnight. Intermediate temporary sites are established, if necessary, to prevent risk to the colonies.

A good migratory apiarist should obtain an average yield of about 250 lbs. of honey from each colony each season. The controlled price of honey wholesale in Australia early in 1947 was 7½d (Aust.) overall. For a man to make a full-time living from bees at this price it is considered necessary for him to have at least 150 hives, or colonies, depending on method of working, locality, and other considerations. According to the strength of the colony, condition of the combs and the hive, and the time of the year, the cost varies from £A2 to £A5 a colony.

Chief requirements for a beginner are an acre or two of land to be used as a base, a good shed, a motor truck, a portable honey extracting outfit, honey tanks, wax press, etc. Once the outfit has been established the costs are mainly for running the truck.

A good example of a one-man migratory beeman is Mr. Stanley Melville, who lives up the Yass Road, four miles from where it turns off the Great Federal Highway just outside Canberra, the Australian National Capital. It is from this base that Mr. Melville operates his 160 colonies.

He travels in sweeping movements cross country south to Gundagai on the Murrumbidgee River of New South Wales, and returns through the coastal districts of Eden-Monaro and the Southern Alps country, a matter of about 200 miles.

Mr. Melville has been practicing full time for about five years, after 20 years as an amateur. He was attached to the parks and gardens section of the Commonwealth Department of Interior at Canberra, resigned his job as foreman of a maintenance gang to take up his present work.

Migratory bee-farming, however, is not all sugar. Things can go awry just as they can in any other calling. It's not just simply a matter of acquiring a couple of hundred hives, placing them on an advantageous site, and stitting back and letting the bees do all the work.

If you enter the business you have to guard against bee diseases. pests, and other hurdles. Even ants can upset the bees and make things go wrong, and moths can cause trouble.

The ant is a real villain in the piece. The hard working, but tired bee, returning to the hive overladen with honey on its third or fourth trip for the day, may not be able to get into the hive with its load at the first attempt. It drops to the ground to get its second wind, and the ants attack it there.

The well-equipped apiarist, of course, carries gear to counter each and all of the pests. I saw Mr. Melville clean out seven ant beds in less than half hour by strewing the beds with a deadly acid called cyanogas and then plugging the ant holes with putty. Fumes from the cyanogas kill the ants instantly. Those left "downstairs" in the bed, slowly suffocate. It takes sometimes two or three applications for this method to be effective, but never more than three.

There is a danger in spraying liquid disinfectants near the colonies. The bees are likely to be attracted by its

(Please turn to page 497)

Men of Today

Arnold P. Sturtevant

How far will a bee fly? Do you learn more about bee diseases through a microscope or by wroking with it in the bee yard? Those are some of the questions Dr. A. P. Sturtevant of the Intermountain States Bee Culture Laboratory at Laramie, Wyoming can answer by experience.

Sturtevant tested bee flight distance by moving colonies into the desert where they had to be fed, and moved the feed frequently to more distant points until we found the maximum they would go, about eight miles. This has a very definite bearing on the spread of disease.

After spending 10 years peering through a microscope and delving into bee diseases he saw there, the call of the West became too strong. Born in Denver, Sturtevant went to Laramie in 1926 and has remained at the Laboratory there since. He has probably done as much as any research worker to determine how colonies become infected with AFB and what concentration of spores it takes to do the job. He has run onto some amazing resistances to disease concentrations in his work with the Arkansas and other experimental laboratories. There are still some unsolved questions as to why some bees become infected and others not, with an identical dose of disease fed to them. It may eventually prove that soil conditions have something to do with resistance just as it has been proved certain crops raised on different soils provide more food for humans than in other localities. Those who are impatient with our research seldom grasp the avenues that open, unfathomed.

Dr. Sturtevant received his A. B. in 1912 at Clark University, Worcester, Massachusetts, and his Ph. D. in 1923 at George Washington University, Washington, D. C. He first became interested in bee work by the offer of a job at Massachusetts Experimental Station in 1915. Married to Dorothy B. Durkee of Worcester, Massachusetts, October 27, 1917, he has one daughter and one granddaughter. His wife takes considerable interest in his work but both still yearn for the hills of Massachusetts rather than the peaks of the Rockies seen from their Wyoming home.

Arnold P. Sturtevant is one of those quiet, unassuming workers many beekeepers have never heard of because he has plugged away at learning more about bee diseases while many have been howling against research. What we accomplish in this country in controlling bee diseases in the next decade will be due in no small way to the work of Sturtevant, for which he deserves our wholehearted credit. The list of his published articles is too long to give here.

New Institute Book Out

Mrs. Harriett M. Grace, of the Ameircan Honey Institute at Madison, Wisconsin, true to her promise, is out with a new book of honey recipes.

This time it is "New Favorite Honey Recipes" as contrasted to the previous book which still remains outstanding, "Old Favorite Honey Recipes."

The present book is nicely bound, has 60 pages with a very finely drawn colored cover.

As much as a layman can get from looking at the recipes the book should be a fine addition to every home cooking shelf. The book is priced at 25c and may be obtained directly from the American Honey Institute at Madison, Wisconsin.

Italian Beekeepers Meet

The Italian National Apiarist Association of some 150,000 members is having their annual meeting in Ancona, Italy, on October 25 and 26. The American Bee Journal has extended to them felicitations and congratulations from our staff as well as from the American beekeeping public in general.

The meeting at Ancona is particularly personal to us, inasmuch as grandfather Marinelli (Mrs. C. P. Dadant's father) was born in Ancona, the place of the meeting.

A Louisiana Bulletin

The second edition of "The Beginner Beekeeper in Louisiana" by E. Oertel has just been issued by the Louisiana State Department of Agriculture and Immigration at Baton Rouge.

There is considerable new material added since the old bulletin was published. It is a 52 page bulletin and available as noted above.

Pellett's Honey Plants

Our readers who have been waiting anxiously for a honey plant book will be happy to learn that under the auspices of the Orange-Judd Company, with the cooperation of the American Bee Journal, a new and greatly enlarged and revised edition of Frank C. Pellett's "American Honey Plants" is now available.

The new and revised edition of his old work represents the outgrowth of 40 years of special study by Mr. Pellett with personal visits to all of North America including Mexico. In addition he has had the experience with many hundreds of plants in the American Bee Journal test gardens at Atlantic, Iowa.

Each state is discussed separately but a complete list of honey plants arranged alphabetically make up the bulk of the book. There are about 1200 plants discussed and more than 200 of these are not in the older editions of this monumental work.

The book is cloth bound, contains 460 pages and 200 illustrations and is on very fine gloss paper. We can recommend it most highly.

The book is priced at $6.00. It can be obtained at this price postpaid from the American Bee Journal office at Hamilton, Illinois or from the publishers.

Fruit Pollination and the Bee Poisoning Problem

(Continued from page 487)

sprays have settled, it is natural to presume that they will also gather and store pollen coated with dinitros. However, in the various observations made in orchards, no bees were noticed gathering pollen from sprayed blossoms. Since the outer parts of the blossoms are burned when dinitros are applied, the anthers are shriveled and the pollen is made unattractive and difficult for the bees to gather.

Field observations on dinitro sprays in 1944 and 1945 in no way changed this general picture. In the spring of 1946, work on thinning sprays was intensified in the laboratory and in the field. The laboratory work confirmed the work conducted in 1943 and provided additional information. It showed that (1) dinitro sprays are definitely toxic to bees and have no repellent action; (2) that dinitro residues remaining on the leaves are water soluble and toxic; (3) that bees will pick up dinitros from sprayed trees and changes in humidity appear to have little effect on this action; (4) that dinitros increase the rate of oxygen metabolism in honeybees and they tend to burn themselves out and die prematurely; (5) that when a bee has acquired a medial lethal dose of dinitro sprays it will fly no longer than approximately ten minutes.

This laboratory work in the spring of 1946 was followed by numerous observations in orchards of the Hudson Valley and western New York. Colonies of bees were moved into two large blocks of apple trees which were sprayed with dinitros. No loss of bees or brood occurred in these colonies which could be attributed to dinitro sprays. Bees were collected from blossoms which were recently sprayed with dinitros and their mortality was compared with bees collected from unsprayed dandelions and other floral sources. The collected bees were placed in wire cloth cages and fed sugar sirup. No significant difference in the death rate was noticed among the bees exposed and not exposed to the dinitro sprayed blossoms.

In general, field observations conducted in the spring of 1946 in no way differed from and tended to confirm observations made during previous years. While no significant loss of bees has so far been noticed in colonies located in orchards where some thinning sprays have been used, tests in the laboratory would indicate that it would be unsafe to state that no loss would ever occur. If bees require moisture they will go to the nearest source for their needs. If the moisture contains dinitros, the bees would take it up just as readily as they would moisture containing arsenic. In other words, a negative answer in the field should not be construed as indicating that the material will always be harmless to bees. Furthermore it is possible that many bees which have picked up some dinitro spray may burn themselves out and die before they reach their hives and considerable loss of bees might occur without being noticed.

While observations suggest that dinitros as used in orchards up to the present time have caused little or no damage to honeybees, no one can foretell what might happen when larger areas are sprayed with dinitros.

At a conference of fruit growers and beekeepers held in Ithaca on November 7, 1946, the following set of recommendations were drawn up:

1. Removal of arsenic from the preblossom sprays.

2. Prepare publicity of the fact that it is neither legal nor advisable to spray with arsenic or DDT during bloom.

3. That a committee draft a proposed change in law and that this group meet again within the next year to consider this matter further.

4. That the College and Experimental Station conduct adequate research on all new spray and dust material and their toxicity to beneficial insects.

The Empire State Honey Producers Association hesitates to approve any change in the present law which prohibits the use of poisons on fruit trees when in bloom, as any change might increase present losses. On the other hand, the members to cooperate in any plan which will reduce production costs to fruit growers and at the same time save the bees.

New York beekeepers, so far, are not worried about the use of dinitro thinning sprays and believe that the far more important problem is to find ways and means of reducing the losses caused by arsenicals. If fruit growers wish honeybees for pollination services, they cannot expect the full cooperation of skilled beekeepers so long as bees are endangered when transported to orchards. Under prevailing spray programs, there is no indication that bees can be permanently maintained in orchard areas with profit from a honey crop or from pollination services.

——— New York.

Following the Blossom In Australia

(Continued from page 495)

moisture, if there is a scarcity of water, with fatal results.

In contrast to Mr. Melville is Mr. Verner H. Gruber, of Figus Road, Queanbeyan, N. S. W. Mr. Gruber owns 2,000 colonies, employs 20 men, and has five trucks and two cars to transport his outfits. His five sons work for him. He doesn't send all his men to one spot, but to different locations, some times interstate.

Mr. Gruber has been migratory bee farming for 30 years and he told me that if you stayed in the bee business long enough, and got stung sufficiently you'd become bee-drunk, or stung-drunk, or honey-drunk. He said he didn't know what the term should be, but it was equivalent to punch-drunk.

"Have you always used a net when working among the bees," I asked.

"Absolutely" he replied, "you're liable to get a swelled head if you don't."

In the hope of providing a valuable pollination service in orchards in cold climates during the early spring flowering of fruit trees, an exchange of breeding bees between Australia and U. S. S. R. was arranged recently. Three Italian queen bees with an escort of young workers were sent by plane from the Hawkesbury Agricultural College in New South Wales. In exchange, the U. S. S. R. Institute of Bee Culture will send a consignment of the Gray Caucasian variety for experimental breeding in Australia.

The Australian industry is being well catered for by the various state governments.

Security and protection are afforded to professional beekeepers, advice is given on controlling bee diseases and pests, and steps are taken to end unfair encroachment on local honey producers.

Before the war a summer school for beekeepers was held regularly at Hawkesbury College, and this may be resumed soon. The term of training was about two weeks, and the fee, which included accommodation, only £A3.10.0.

FROM HERE AND THERE

Victoria Beekeepers Protest Poison Spray

The beekeepers of Victoria and surrounding districts have suffered badly from the use of poison sprays. 90% of the beekeepers in Victoria got no crop at all and cases were reported of hundreds of bees lying dead in front of their hives a few days after the application of poison spray to trees. It was also a bad year for tent caterpillars and all agencies did their utmost to combat this matter.

The Vancouver Beekeepers' Association considered steps to eradicate the serious loss. The Victoria City Parks and Boulevards Department was contacted along with the Reeves and Councils of the surrounding muncipalities, the British Columbia Forestry Branch of the Department of Lands and commercial tree spraying concerns. Everyone promised cooperation. The Forestry Branch said the only poison sprays used by them were in areas distant from the city, and the Victoria Parks and Boulevards Department explained that spraying had been late because spraying equipment had been received late but the spraying would be done earlier, hereafter.

At a later meeting of the Association, it was brought to their attention that the Department of Agriculture had experimented successfully with the inclusion of repellents in the poison sprays in cooperation with the Assistant Provincial Apiarist. They found that the inclusion of 3 to 5 ounces of crude carbolic acid in each 100 gallons of spray material was an effective repellent for bees. This information was conveyed by a series of letters to the authorities with pleasing results. One commercial spraying company published advertisements to the effect that repellents would be used in all their sprays, and another stated in a letter to the Association that they never did any spraying on trees in bloom. Municipal authorities agreed to cooperate. Another evidence of the effectiveness of the campaign appeared in the increasing demands at agricultural supply houses for carbolic for use as a repellent. At the last meeting of the Association there were no complaints of losses of bees and satisfaction was expressed with the way in which colonies were building up.

Other agencies contacted by mail included the local press, a gardening magazine, and two well-known radio programs dealing with gardening. This resulted in additional publicity.

David Scholes,
British Columbia.

Protective Quarantine Placed on Cameron and Hidalgo Counties, Texas

In order to facilitate the work of eradication of American foulbrood disease among bees in the Lower Rio Grande Valley of Texas and as a protective measure against possible spread of this disease and other infectious disease of bees which in the future may be introduced, a protective quarantine is hereby declared on Cameron and Hidalgo Counties, effective October 1, 1947, under the provisions of Section 8, Chapter 51 of the General Laws of Texas, Thirty-Third Legislature.

The movement or shipment into Cameron or Hidalgo County of honey bees on combs, second-hand bee equipment or appliances capable of transmitting American foulbrood or other infectious disease is hereby prohibited except under the following rules and regulations.

1. Application for permit must be made to the State Entomologist, College Station, Texas, showing the number of colonies to be moved into the above area.

2. Applications must be accompanied by the following:

a. A Statement of Facts concerning occurrence of foulbrood, feeding of sulfathiazole and a certificate from a duly authorized inspector, or affidavit where no inspection service is available, showing the apiaries where the shipment originated to be free of American foulbrood and other infectious disease of bees.

b. Sufficient information including subdivision block and lot number, and other facts concerning the proposed location of each yard, so as to enable the State Entomologist to spot the location of the proposed yard or yards on a large scale map.

3. When the information called for in the application is in order and, in the opinion of the entomologist or his inspectors there would be little danger of American foulbrood getting out of control, the locations will be registered by the State Entomologist in accordance with the priority rating attached herewith, based on the facts available.

4. After locating the bees, each yard **must** have the name and local address of owner or manager so displayed on or near the equipment that it can be quickly found and is plainly legible.

F. L. Thomas,
State Entomologist,
College Station, Texas.

* * * *

Tentative Priority Rating Used In Registering Bee Yards 1947-48

1. (a) Home place where beekeeper or caretaker is living—whether owning or renting.

(b) Property owned by the beekeeper, but not his home place.

2. Length of time—number of years a location has been occupied all or part of the time each year and cash rental or honey paid to Lessor in 1946-47, or if a form of payment was made to you for placing your bees in the location.

3. Accuracy with which location is indicated, thereby enabling State Entomologist to pinpoint it. A 1946 map on a scale of 3000 ft. to the inch is being used in this work.

4. Order in which application is filed.

Note—If a location registered by a beekeeper is not used by him for his bees or bees in which he has control-

ling interest during any part of a year, it shall be considered as vacant the following year, unless extenuating circumstances occur. If extenuating circumstances should occur that prevent occupation of an old location for a year, it may continue to be held by a beekeeper the following year providing it is duly registered.

Outstanding Honey Display

Row after row of shining clear jars of amber and white strained honey, interspersed with a multitude of figurines carved of beeswax today line the silver-covered shelves of the apiary exhibit in floral hall [Aledo]. And adding a more natural touch, a number of glass paneled exhibition hives full of bees are on display.

Will C. Egbert, superintendent of the department, assisted by Rollie Dunn, worked to make the department outstanding, and it is really an eye-catcher.

While judging the many entries Roy Grout, Hamilton, who has served as judge of the apiary department at the Pennsylvania state fair, stated that the quantity and quality of the entries of honey and beeswax carvings are unusually high, and went further to remark, "This is the best honey I have seen in this section of Illinois."

If this exhibit doesn't make you hungry for some of that luscious sweetness, nothing will.

Laurie Blazer, In Times Record, Aledo, Illinois.

Meetings and Events

Tazewell (Illinois) Peoria, October 12

The Tazewell Beekeepers' Association will hold a meeting at the home of Joseph Jackman, at the "Guardian Angel Home" in Peoria, Illinois, October 12, at 1:00 P. M. Basket dinner. Bring your own table service. All beekeepers invited.

Mrs. Hazel Palmer,
Ass't. Secretary.

Little Rock Live Stock Show, October 6-12

Ex-service men who are beekeepers and in vocational training plan a honey exhibit at the State Live Stock Show, Little Rock, October 6-12. Others interested and who meet these qualifications should contact the State Apiary Board office, 346 State Capitol, Little Rock, Arkansas.

Alabama Association, Jefferson Davis Hotel, Montgomery, October 30

The Alabama Beekeepers' Association will have its annual meeting at the Jefferson Davis Hotel, Montgomery, Alabama, October 30, 9:00 A. M. Important speakers are Roy Pugh, Saskatchewan; Dr. Whitcomb Baton Rouge; and Dr. Mackenson, Baton Rouge.

F. E. Guyton, Sec-Treas.

New Jersey Association, South Branch, October 18

The final field meeting for the 1947 season of the New Jersey Beekeepers' Association has been planned to be held at the apiary of Harry G. Lare, South Branch, Somerset County New Jersey, October 18, at 1:00 o'clock in the afternoon.

A varied program has been arranged, the outstanding part of which will be an exhibition of extracting and bottling honey.

Follow the red arrows from a point on New Jersey, Route 29, about four miles west of Somerville circle.

E. G. Carr, Sec.-Treas.

Anchor Hocking "Crime Photographer" Program on Honey

The Anchor Hocking Glass Corporation will contribute to the program of the American Honey Institute with a commercial announcement over 145 stations of the Columbia Broadcasting System on its "Crime Photographer" program, Thursday, October 30, at 9:30 P. M., eastern standard time.

We have received a copy of the script and it certainly is a plug for honey in a big way. All those interested in it should listen at this time for this important commercial announcement which will give the industry a big boost.

Improved Beekeeping

The Vermont Beekeepers Association members gathered near the beautiful Quechee Gorge beneath the overhanging trees of a typical country farm on August 30 to discuss beekeeping improvements under the direction of the well-known Vermont honey producer, Charles Mraz.

There were two outstanding speakers, Dr. Hepler, of New Hampshire State College, and Clyde Wood, of South Woodstock, Vermont. Both of these men gave practical advice on bee diseases and their treatment; pasturage, especially Pellett Clover and locally grown shrubs; and the production of home-grown queens with its advantages. Mr. Wood also exhibited a new type brood chamber

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of his own make, with several new innovations.

No one left that gathering without being filled with enthusiasm and with the resolution to be a better beekeeper in the future and to strive for mutual cooperation in the production and distribution of honey.

Thomas J. Moore, M. D.,
New Hampshire.

Tennessee State Horticultural Society

The annual convention of the Tennessee State Horticultural Society will be held on December 10, 11 and 12, with headquarters at Hotel Patten, Chattanooga, Tennessee.

Those expecting to have commercial exhibits should make early reservations to the chairman of the local committee, Wade Hampton, R. No. 4, Chattanooga. There will be fifty commercial exhibition booths, 6 feet by 8 feet in size. There will also be an apple exhibit being brought in from this and other states. Program for the meeting will be ready for distribution December 1.

G. M. Bentley, Sec.
Knoxville, Tennessee.

Morris County Branch, New Jersey Beekeepers' Association

The Morris County Branch summer field meetings continue with increased enthusiasm, as 72 members turned out on August 3 to hear Mr. Milton Stricker give a very interesting and instructive talk on "Fall Management." This talk was followed by a written question and answer period in which the entire group enthusiastically participated.

The renewed vigor of our group is continuing to grow. Come and see for yourself.

The next meeting is scheduled for 2:00 P. M., Saturday, October 4, at the apiary of Leslie Smalley, Main Street, Chester, New Jersey. The topic will be "Fall Handling of Honey" and will include a discussion on extracting and processing.

Provisions have been made for the meeting to be held rain or shine.

G. A. Downsbrough, Sec.

New Jersey Beekeepers' Association

Three big attractions are scheduled for the October meeting of the North Jersey Beekeepers' Association which is to be held in the Bergen County Courthouse on October 17, in Room H at 8 P. M. James I. Hambleton, of Beltsville Research Center, will be the speaker.

Carl Cordes, chairman of the organization's film library, has promised a showing of the film taken during the year. It is hoped that the film will be titled in time for his meeting. Don't miss the showing of these pictures which include every meeting we have held this year. Election of the 1948 officers will also be held at this meeting.

Mrs. Fred Conrad has announced that plans for the First Annual Honey Exhibition are well under way, and that the exhibition will be held during the latter part of October or the early part of November. There will be five classes for extracted honey, three classes for section honey, three classes for chunk honey, and three classes for wax. Other items may be entered but no awards will be made except for the above mentioned.

Richard A. Geoghegan, Sec.

Minnesota September Meeting

Several beekeepers from Lake of the Woods and Roseau counties met in Warroad, Minnesota, Monday evening, September 1.

One member reported that he had sold part of this season's crop at a bulk price of 27c per pound, F. O. B. his station. Other members, who have not been holding, resolved to put their prices up, because the short crop locally and nationally should bring prices up equal to last fall and last winter's prices.

One beekeeper told of his style of wintering which has been successful in our locality. He has brought strong colonies through on consumption of 25 pounds of stores.

Another reported on his experiments in feeding dry sugar and dry sulfa this year.

The use to which our state department is putting its appropriation for bee disease work came up for discussion with the concensus of opinion that we are very dissatisfied. Some of our members have given sulfa a very thorough test and are quite satisfied that the old burning or sterilizing methods are obsolete and wasteful.

The advisability of pooling a carload of honey and putting it up for bids was discussed and it seemed generally agreeable to do so.

Our meeting was considered to be very helpful to all and another meeting is being planned for next month. Our association is growing.

Ed Trimble, Sec.

New Zealand Bulletin

"Beekeeping in New Zealand" is the title of a new bulletin appearing in late 1946, written by T. S. Winter, senior apiculture instructor at Wellington, under the auspices of the New Zealand Department of Agriculture.

Paper bound, the book contains 140 pages, is well illustrated and authoritative. General subjects are well treated from Anatomy to Bee Behavior, Hive Practices, Queen Rearing, Crop Harvesting, Extracting and Disposal of the Crop. A good manual.

New Zealand, like the United States, originally had no bees. The first colony was brought from England in 1839. Isaac Hopkins is recognized as the father of modern beekeeping in New Zealand.

The book is apparently for free distribution in New Zealand through the Department of Agriculture at Wellington.

Association Changes Name

The New Rochelle Beekeepers Association, which has now officially changed its name to the Westchester County Beekeepers Association, will hold its next regular monthly meeting at 2:30 P. M., Sunday, October 19, 1947, at the Odd Fellows Hall, 20 Lockwood Ave., New Rochelle, N. Y.

After the business meeting, the main topic of discussion will be concerning the wintering of bees. Instructive movies will be shown and refreshments will be served. Visitors are always welcome.

B. F. Miller, Publicity.

Honey Processing Plant Opened In Tallahassee

A $10,000 honey-processing plant, believed to be the only one of its kind, was recently opened in Tallahassee, Florida, by Cal. T. Albritton, former Gadsden County bee farmer.

The plant, which has a peak production of 2,000,000 gallons, has been operated on a limited and experimental basis, but has turned out hundreds of gallons of honey for domestic and foreign markets.

Built along the lines of the turpentine still, the plant consists mainly of an unloading platform and a bottling or canning room. Eight 1450 to 1900 gallon drums, each a few inches lower than the preceding one are also housed near the bottling room.

The honey is unloaded, dumped into a vat and begins a slow filter from one drum to the other. The filter process eliminates foreign matter and the honey is clear by the time the last filter is completed.

Albritton, the owner, purchases a lot of his honey from the West Florida section. From Franklin, Liberty, Gulf, and Calhoun counties comes the famed Tupelo honey, said to be the only honey in the world that does not granulate. It is most often mixed with other types of honey to prevent granulation.

Ted Bryan, Florida.

What Per Cent is Honey?

We were curious about this when we started taking off our honey and so we gassed and weighed six colonies which gave us the following figures:

Colony No. 1, scale colony for the season, lost 27 pounds from the close of the honeyflow to the time of the killing. At that time it was four stories high and weighed 214 pounds gross. The bees brushed out ten pounds. The hive after extracting weighed 96 pounds leaving a net weight of honey removed 108 pounds.

Hive No.	Stores	Gross Weight Pounds	Wt. of Bees Removed, Pounds	Hive Wt., Pounds	Honey Extracted, Pounds
1	4	214	10	96	108
2	4	238	5	89	97
3	5	238	9	109	120
4	5	251	10	113	128
5	6	338	10	111	217
6	6	349	12	130	207

The above were standard 10-frame hive bodies with nine combs in each. They would not represent an average of our output this year but were two four-story, two five-story and two six-story colonies selected at random without an examination. At the time the bees were killed brood rearing was practically over.

The ratio between the gross weight of the hive and the amount of honey it contained would be an interesting study for someone having the time to devote to it.

P. M. Williams,
Alabama.

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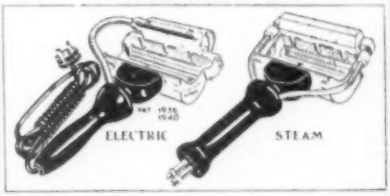

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1-24	$1.40	$4.50	$5.65	LARGER LOTS, WRITE FOR PRICES
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10-lb. Tin Pails.
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1-lb. Glass Jars, 24 in a carton.
2-lb. Glass Jars, 12 in a carton.
3-lb. Glass Jars, 12 in a carton.
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Comb Honey Cartons.
Shipping cases.

Write for prices, stating quantities you intend to purchase.

A. H. Rusch & Son Co.
Reedsville, Wisconsin

1947 Honey Container List

Here are the prices and the quality containers that you have been wanting to see available again. Our 1947 Honey Container List will give you full information, pictures and prices on cans, pails, jars, servers, signs, labels; and on up-to-the-minute honey handling equipment—knives, extractors, planes, acid, tanks, hose and other items.

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Will you offer us honey and beeswax.

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have been devoted to the improvement of the parent DR stock made available through the Iowa Beekeepers' Association.

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Package Bees and Queens
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THE GOAT WORLD
STROUDSBURG, R. NO. 3, PA.

STATEMENT OF THE OWNERSHIP MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF ANGUST 24, 1912 AND MARCH 3, 1933.

Of American Bee Journal, published monthly at Hamilton, Illinois, October 1, 1947.

STATE OF ILLINOIS, } ss.
County of Hancock, }

Before me, a notary public in and for the state and county aforesaid, personally appeared **M. G. Dadant, who, having been duly** sworn according to law, deposes and says that he is the business manager of the American Bee Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the name and addresses of the publishers, editors, and business managers are:

Publishers: American Bee Journal, Hamilton, Ill.

Editors: G. H. Cale, Hamilton, Ill., F. C. Pellett, Hamilton, Ill., M. G. Dadant, Hamilton, Ill., J. C. Dadant, Hamilton, Ill., R. A. Grout, Hamilton, Ill.

Business Managers: M. G. Dadant, Hamilton, Ill., J. C. Dadant, Hamilton, Ill.

2. That the owners are:
H. C. Dadant, Hamilton, Ill.
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3. That the known bondholders, mortgagees and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustees or in any other fiduciary relation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

(Signed) M. G. DADANT,
Business Manager American Bee Journal.

Sworn to and subscribed before me this 20th day of September, 1947.

MINNIE S. KING, Notary Public
My commission expires Nov. 17, 1949.

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30% discount on queen bees for the balance of the season—off prices below.

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1- 5	$1.55
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Small orders, cash in full. Large orders, 20% deposit, balance to be received two weeks before shipping date.

For a decade we have served the beekeepers of a continent. Our wish is to continue to enjoy your good will.

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QUALITY BRED ITALIANS

Balance of season prices. Plenty of bees and queens and prompt shipments.

2-LB. PACKAGES WITH QUEENS	$4.50 EACH
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Booking orders now for 1948, let us hear from you with reference to your requirements for the coming season.

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York Bee Company : Jesup, Ga., U.S.A.
(The Universal Apiaries)

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SELECTED hardy Italian queens from heavy honey producing stock. Northern bred, northern raised. Each, $1.25. Baker's Apiaries, Glencoe, Illinois.

CAUCASIAN and CARNIOLAN package bees. Booking orders for spring 1948 delivery. Tillery Brothers, Rt. 4, Greenville, Ala.

GOOD QUEENS FOR FALL REQUEENING. Young, pure three-banded Italian stock that has made outstanding records for honey production in areas where large crops are made. You will like these queens and you probably cannot buy better stock. They are reared to give you service. Through the years our queens have been doing just that. For good wintering and the maximum honey crop next year, requeen every colony whose queen will be more than 18 months old by next July. Prompt shipment. $1.10 each; 25 to 99, $1.00 each; 100 or more, 90c each. H. C. Short, Fitzpatrick, Alabama.

THREE BANDED Italian Queen—1 to 25, $1.10 each; 25 up, $1.00 each. Alamance Bee Company, Graham, N. C.

GOLDEN ITALIAN QUEENS — Untested $1.25 each, any number. Carolina Bee Farm, Graham, N. C.

3-BANDED QUEENS—$1.00 each. Dalice E. Crawford, Haw River, N. C.

CAUCASIAN QUEENS to fill your hives with gentle high producing bees. Howard Crom, Ripon, California.

ITALIAN QUEENS — Satisfaction assured. Prices upon request. A trial convinces. Lange Apiaries, Llano, Texas.

BREWER'S LINE—BRED CAUCASIAN QUEENS—We have closed our queen yards for 1947. Now booking orders for April delivery. 30c deposit on each queen at time of booking. No package bees. BREWER BROTHERS APIARIES, 3616 Caucasian Circle, Tampa, 6, Florida.

PACKAGE BEES, QUEENS, Italians. Circular free. Crenshaw County Apiaries, Rutledge, Alabama.

HONEY AND BEESWAX WANTED

WANTED—Clover in new 60's. Lewis Konces, North Abington, Massachusetts.

HONEY WANTED—Small or large lots. White clover preferred. Send sample and price. Emil Strudell, 2246 W. Hopkins St., Milwaukee, Wisconsin.

HONEY—Extracted clover preferred, in 60's. Cash deal. Interested in small lots. Mail sample, price, quantity. A C Honey Co., 5005 Woodland Ave., Western Springs, Ill.

WANTED—Large or small lots comb, cut comb, chunk and extracted honey. Our trucks will pick up at honey house. Wire collect or write us what you have. Let our representative call on you. References, Manufacturers and Mechanics Bank or Merchants Bank of Kansas. We also offer carlots or less bottled honey all sizes for sale. Frank King & Son, 326 South Bales Ave., Kansas City 1, Missouri.

WANTED—Large quantities of extracted honey. Will pay top cash prices. Also beeswax. Guy Polley, Nevada, Iowa.

WANTED—Clover extracted and comb honey. Any quantity. State price in first letter. C. Jankowski, Prairie View, Illinois.

WANTED—Light extracted honey in 60's clover preferred. J. Jones, 115 West 82 Street, New York 24, N. Y.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rates of advertising in this classified department are ten cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other reference with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease or state exact condition, or furnish certificate of inspection from authorized inspectors. Conditions should be stated to insure that buyer is fully informed.

WANTED—Clover, alfalfa and amber honey in carload lots or less. Send sample and quotation. Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

HONEY AND BEESWAX. HIGHEST PRICES PAID. MAIL SAMPLES, ADVISE QUANTITY. BRYANT AND SAWYER, LOS ANGELES, CALIFORNNA.

HIGHEST CASH PRICES paid for all grades extracted honey. Prairie View Honey Co., 12303—12th St., Detroit 6, Mich.

WANTED—Extracted clover honey in 60's. B. I. Evans, Windom, Minnesota.

CLOVER HONEY WANTED in 60's. Large or small lots. Send sample and state quantity. Ellsworth A. Meincke, Arlington Heights, Illinois.

HONEY WANTED—All grades, carloads or less. Also beeswax. Pay top prices. H. & S. Honey & Wax Company, Inc., 265-267 Greenwich St., New York 7, N. Y.

WANTED—Extracted honey, white or light amber, in 60's. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

HONEY WANTED—Small or large lots. Send sample and amount. Rocke Apiaries, Eureka, Illinois.

HONEY FOR SALE

FINEST QUALITY sourwood honey, 5-lb. pails $3.00 each; 24 oz. jars 90c F.O.B. Alamance Bee Company, Graham, N. C.

LIGHT CLOVER honey in 60 lb. cans. Fenton Honey Co., 304 E. 92nd St., New York 28, New York.

FOR SALE—25,000 pounds mostly extra light amber clover honey. To be called for at my honey house at Savanna, Illinois. Chas. D. Handel, Savanna, Illinois.

FOR SALE

FOR SALE—Used Mod. Dadant equipment. Good condition, all factory made, crimp wired foundation in combs, no AFB. 100% clean last inspection; combs in excellent condition. Hive bodies with 11 combs $3.30; hive bodies with 11 frames $1.10; hive bodies empty 65c. Super with 10 combs $2.00; super with 10 frames 75c; super empty 45c. Metal telescope cover 75c; inner cover 20c. Discount 5% over $100.00—10% over $200.00. Melford Olson, Red Lake Falls, Minnesota.

FOR SALE—250 colonies Italian bees in standard ten-frame hives, except few eights. Heavy with honey and bees. Combs drawn from foundation. Three shallow supers each, metal covers. Hives painted. Some excluders, extra hives and supers. Inspected when sold. Prices reasonable. A. J. Deal, Normandy, Tenn.

FOR SALE 32 10-frame hives of bees with summer's crop of white clover honey. Straight combs, wired, comb and extracting honey supers and extra supplies. W. E. Clemens, Box 306, Rantoul, Illinois.

25 COLONIES bees, account health. 10-frame, with '47 crop and '47 queens. Extra supers, 4 frame extractor, uncapping knife, tanks. $500. takes them. Charles Mishler, Box 1124, Eugene, Oregon.

50 COLONIES. 150 standard supers and drawn combs. Guaranteed clean. First reasonable offer by October 12 takes them. F. A. Storz, Bristol, So. Dakota.

36 HIVES bees 10-frame, 2-story, 1947 queens. 4-frame extractor and extra equipment, honey house and location if wanted. No disease. W. A. Dagnan, Lynxville, Wisconsin, Rt. 1.

FOR SALE—1500 standard 10-frame supers with drawn comb; 500 bottom boards; 500 redwood covers. Migratory style new Superior eight-frame extractor 12 inch baskets. Inspection certificate furnished. Poor health reason for sale. Write Carl A. Wenner, Roseau, Minnesota.

EXTRACTORS—One four-frame, reversible, power driven, $75.00 and one eight-frame, reversible, power driven, $100.00. Ralph Nemec, Rt. No. 2, Eagle Lake Road, Willmar, Minnesota.

COMPLETE 100 colony outfit with supers and extracting equipment. Certificate of inspection furnished with sale. Ross Ridge, Rockwell City, Iowa.

BETWEEN 900 and 1000 colonies of bees in ten-frame standard hives with queen excluders. Nearly four thousand shallow supers with drawn combs. Complete extracting equipment. Guaranteed free from diseases. Hives are full of bees and heavy with honey. Any reasonable offer will be considered for quick sale before they are packed for winter. Locations go with the bees. Am selling account of health. J. F. Shipton, Lander, Wyoming.

FOR SALE—800 empty supers, 8-frame, good condition, 35c ea. Also 200 deep comb Jumbo 10-frame hives of bees with one super around, $10 each, guaranteed no disease. Nealey Honey Co., Aberdeen, Idaho.

30 HIVES of bees for sale. Mostly 3 stories. Wired foundation drawn into comb. Very strong hives, produced 1500 pounds of honey in last 6 weeks. $18 per hive. Keith Daulton, Raymond Road, Box 11, Madera, California. Phone 2F12.

FOR SALE—Complete 100 colony double 10-frame extracted outfit. Good condition, going concern. Will give disease history. Clean now. Fred Boerner, Mount Carroll, Illinois.

100 COLONIES bees in clean two-story, 8-frame hives. Write Hans Mathison, 1834 So. Ogden St., Denver 10, Colorado.

FOR SALE—2 Root reversible basket extractors, twelve inch and 9⅝ inch baskets. One Kelley double boiler storage tank, 90 gallons, with lid. W. G. Duckwall, Rt. 2, Jacksonville, Illinois.

350 COLONIES bees, two to four stories. Surplus equipment included. Have state health certificate. Same locations if desired. Mrs. J. Claude Wilson, North Pleasanton, Texas.

REDUCING MY COUNT—increasing my maneuverability. For sale—good hives of bees with two shallows in Florida, $16.00

until December 1, no locations furnished, lots of 100. Wanted to arrange with those who kill their bees for package shipment to me this fall. Have bees inspected early. Read Florida regulations. Write to arrange terms and instructions. Will be in Florida after September 1. Paul D. Thompson, 127 Ave. A N.E. Winterhaven, Florida.

FOR SALE on account of health—In S. Calif. complete bee business—about 1100 colonies, 10-frame standard, with valuable locations. 10 acres citrus orchard 12 years old. 2-story combination living and extracting house, stucco, tile roof, on paved thoroughfare in the fastest growing section of Calif. Most suitable for commercial beekeeper raising early package bees for colder climates. Price $45,000 with $20,000 cash. Max Mayer, 525 Cucamonga Ave., Pomona, Calif.

400 two-story ten-frame colonies of bees in good condition. Extreme northern Calif., near Yreka. Will sell reasonable. Victor Huddle, Greenview, California.

PURE NORTHERN MAPLE SYRUP in 5 gallon or 1 gallon containers at $4.85 a gallon. The Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

FOUR FRAME Universal extractor. Excellent condition. Write Box 388, Picayune, Mississippi.

HONEY LABELS—Improved designs, embodying color, balance, simplicity and distinction. Please send for free samples and prices. C. W. Aeppler Company, Oconomowoc, Wisconsin.

FOR SALE—2-lb. (round) honey jars, packed 12 to carton, with caps, 42c per carton, or $5.00 gross, f.o.b. plant. J. W. Reitz & Bros., Route 1, Summerfield, Florida.

WHITE AND AMBER HONEY in 660 lb. drums, 60 lb. tins or glass. Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

HONEY (best grade) for sale in large quantities 25c lb. in your containers. E. R. Raley, Box 1610, Daytona Beach, Fla.

FOR SALE—25,000 mill run Lewis sections 3⅞x5x1⅞ scalloped 4 sides ⅛ inch at $14.00 per thousand, f.o.b. Hamilton, Illinois. Dadant & Sons, Hamilton, Illinois.

HIVE BODIES, covers and bottom boards, bee shipping cages and nuclei hives. All supplies new and knocked down. Price list furnished on request. A & B Supply Company, Coffee Springs, Alabama.

ELECTRIC uncapping knives in stock, $12.18 postpaid. Quick shipment. Walter Kelley Co., Paducah, Kentucky.

Dadant Foundation and Lewis supplies in turn and as available. SWISHER MARKET, Lewis-Dadant Dealer, P. O. Box 806, Springfield, Ohio.

WANTED

WANTED TO BUY—25 to 50 colonies of bees with minimum of 50-lb. honey for wintering. Inspected. Extracting supers if possible. Within hauling distance. W. E. Warren, Torrington, Wyoming.

WANT TO BUY—Bees, 88 ten-frame two-story colonies or more in good condition. J. R. Jack, Jr., 920 Gum Avenue, Woodland, California.

POSITIONS AND HELP WANTED

DESIRE TO WORK with queen breeder in the South, or lease bees. Some experience in queen rearing, 25 years a beekeeper. Only Christian need reply. Hubert Martin, 506 Iowa St., Sioux City, Iowa.

WANTED—Work by northern beekeeper in the South for this winter. Write R. J. Kostman Apiaries, Postville, Iowa, Rt. No. 2.

POSITION WANTED in some southern state for the winter, either in an apiary or at general carpenter work. J. P. Isaacson, Salol, Minnesota.

SUPPLIES

FOR SALE—Honey jars, one, two and five pound complete with caps. We have them in stock and can make prompt shipment of any quantity. The R. Peltzman Bottle Co., 1721 Holmes, Kansas City, Mo.

WESTERN PINE Hoffman style, standard brood and extracting frames. Split or solid bottom bars. $8.50 per hundred. Cash with order. Write for quantity prices. Prompt shipments. Arizona Hive Parts Co. Florence, Arizona.

CLEAN UP AFB with sulfa. 25 tablets 50c; 50, $1.00; 100, $1.50; 1,000, $6.00. Free circular, quick shipment. WALTER T. KELLEY CO., PADUCAH, KENTUCKY.

SIMPLEX TRAP clips queens without handling. $1.75 postpaid. INSTANT FRAME SPACERS—seven, eight, nine, fast-accurate. $1.50 postpaid. Free circulars, George Leys, 48 Drake Avenue, New Rochelle 2, New York.

PORTER BEE ESCAPES are fast, reliable, labor savers. R. & E. C. Porter, Lewistown, Illinois.

ATTENTION BEEKEEPERS IN MINNESOTA, Wisconsin, Iowa, N. D. and S. D. Buy Lewis-Dadant Bee Supplies and Honey Containers in Minneapolis and save. Send for price lists. TOP PRICES PAID FOR HONEY AND BEESWAX IN CASH OR TRADE. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minnesota.

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries. Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

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NECTAR and POLLEN-YIELDING TREES, SHRUBS, AND PLANTS for your section. Write for our illustrated descriptive folder now and plant this fall. NICOLLET COUNTY NUSERY, St. Peter, Minnesota.

Anise Hyssop, wonder honey plant, blooms from June until frost. New crop seed, per ounce (20,000 seeds) $2.00, postpaid. Send for our free circular describing 40 good honey plants. Melvin Pellett, Atlantic, Iowa.

PIGEONS

SQUABBING White Kings, 2 pairs $9.00. Racing Homers, 2 pairs $5.00. Money order. No dealers. F. Hagan, 405 Buttonwood, Philadelphia 23, Pennsylvania.

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FASCINATING — ENTERTAINING — INSTRUCTIVE. Play "BEEKEEPER" the sensational new game based on the beekeeping industry. Game is played on an attractively colored board. Price complete with cards, dice, token and instructions, only $1.89—postage prepaid. K. A. Olson Company, Owatonna, Minnesota.

ATTRACTIVE gummed honey labels. Samples. Dick Tracy 2-way wrist radio. Brooks 120J. Arkansaw, Wisconsin.

INTERESTING, NEW, DIFFERENT, PROFITABLE magazine. For the person with only a city lot or several acres. Write: BACKYARD FARMER, 223 Bellis Street, Duluth 3, Minnesota.

BEEKEEPING BOOKS for sale—about 100. George McCartney, "Beechgrove," Kirkpatrick-Durham, By Castle-Douglas, Scotland.

ATTRACTIVE HONEY LABELS—Gummed, postpaid, your own wording, 1,000 now $2.50. New handy pocket pencil sharpener, guaranteed 40c; 3, $1.10. Brooks B120J, Arkansaw, Wisconsin.

RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any magazine published. Subscription $1.50. Hotel Cactus, San Angelo, Texas.

WANTED—Old out of print bee books. We have a service for libraries and others interested. If you are through with your old bee books do not destroy them. Let us put them in the hands of interested parties at fair price to you. American Bee Journal, Hamilton, Illinois.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specialize in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents, stamps. Membership of the Club, including subscription to the paper 10/6. The Apis Club, The Way's End, Foxton, England.

INDIAN BEE JOURNAL—The only Bee Journal of India. Sample copy against 25 cents (or 1s 6d.) postage stamps. Yearly 7s. 6d. ($1.50) international M. O. Apply—Bhupen Apiaries (Himalayas), Ramparh, Dist. Nainital, U. P., India.

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Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
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Oconomowoc, Wisconsin

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
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SHIP YOUR HONEY IN STEEL DRUMS
(No leakage in transit)
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229 WALNUT ST. CINCINNATI 2, OHIO

Crop and Market Report

By M. G. Dadant

For our October Crop and Market page we asked reporters to answer the following questions:

1. How is the crop compared to 1946?
2. Prospects for balance of season?
3. Give local retail prices on 1-lb., 5-lb., 60-lb.
4. What is the bulk price on ton to carload white and amber honey?
5. Condition of bees for winter?

Crop Compared to 1946

With few exceptions we have reports of a much less crop than in 1946. These exceptions cover, generally, the New England States, stretching down the coast through Maryland, Virginia, and North Carolina.

A belt across the northern tier of southern states, namely, Kentucky, Tennessee, northern Alabama, Arkansas, and into Oklahoma shows about 125% to 150% more than a year ago. In Minnesota and the Dakotas reports are extremely scattered, some reporting much more than last year but probably the bulk, much less. The intermountain territory as a whole probably will have more honey than last year although parts of Wyoming and Montana report a very meager crop. Utah seems better. The northwest coastal states are undoubtedly better than a year ago but California overbalances the whole lot with probably not over 25% to 50% of last year's poor crop.

On the whole it looks like we are faced with a 20% less crop than a year ago owing to the shortage in the southeastern states and throughout the central West and California and parts of the Plains states. Wisconsin seems much better than a year ago, Michigan perhaps slightly better, but Indiana, Ohio, and Illinois running far less. Extreme northeastern and northwestern Iowa are much better than a year ago, the rest of the state down considerably. In the Canadian provinces probably the crop will be about the equal of last year or likely a little better.

Prospects

It is late now for any more crop, although where there were earlier rains the fall prospects were good and buckwheat seemed quite good. Probably the cold spell coming in late September put an end to any more honey gathering. Amazingly, northwest Iowa was still getting a good flow from sweet clover on September 15.

Prices

If it were not for many lots of honey on the grocers' shelves at the exorbitantly high prices which appeared late last winter and early spring after the ceilings were removed, we believe that the demand for honey would be quite satisfactory and the retail prices would range about in the neighborhood of 45c on 1-lb., $1.50 to $1.75 for 5-lb., and $12.00 to $15.00, retail, for 5-gallon cans. This is strictly a retail price although we have reported variations of from $1.10 to $2.25 for 5-lb. pails and from 27c to 60c for 1-lb. One Michigan association is recommending selling to grocers on a basis of 5-lbs. for $1.75, 1-lb. jars for 45c and 60-lb. cans to consumers at $18.00. In general, however, the average seems to be about 39c to 45c, retail for 1-lb. jars, and $1.50 for 5-lb. pails.

Bulk Price

Again we find a great variation. Most beekeepers either anticipate or have obtained about 18c to 20c per pound for their good white honey, with perhaps 2c less for the amber. However, buyers are not very active and probably are buying from hand to mouth. Where offers are being made generally, they range about in the line of 12c to 12½c per pound for amber and perhaps 2c or 3c more for light, although we hear of one western buyer offering 12c straight through for white. Two other buyers located farther south suggest 12c for amber to 15c for light. We doubt if beekeepers will want to sell on that basis and perhaps will seek retail markets rather than doing so. The demand, generally retail, seems quite satisfactory in spite of the hot weather we have had, except where grocers are still endeavoring to maintain the high prices of early spring.

HONEY WANTED Cars and less than cars Top Prices
C. W. AEPPLER CO., Oconomowoc, Wisconsin

Condition of Bees

The condition of bees generally seems to be quite satisfactory throughout the country. Even though dry hot spells have occurred, the bees seemed to have obtained sufficient to keep their own strength up, although in many cases stores are insufficient.

As a general rule the central West and extending into the Plains territory show a shortage of honey and perhaps considerable feeding of bees will be necessary before the winter sets in. California has had hot dry weather also and likely many bees will starve unless they are fed. The same thing seems to be the case in some of the extreme southeastern states, although late secondary flows may have been of some help.

Summary

All in all the honey market has hardly had time to establish a base on which one could figure. The determination of the beekeepers, however, seems to be that they should have or are getting about the prices as suggested above. In Canada, with the ceilings off just recently, the prices have advanced quite rapidly and we learn of three or four cars moving as high as 28c per pound although the bulk of it is probably moving at 18c to 20c.

We see no reason for beekeepers to hurry in disposing of their crop, particularly as the cool fall weather should sharpen the demand. Honey should maintain itself, without a doubt, close to preserves and jelly prices and those have not as yet been reduced to a point where 12c honey would be justified. The tendency on the part of reporters seem to be that 20c bulk is a good price for honey.

QUEENS QUEENS

Three Banded Italians **Caucasians**
Bred to Italian Drones

All queens are held in the mating hives until their egg laying ability has been proven, and shipped by Air Mail.
It is not too early to think of your 1948 needs. We are preparing now so that we can give you bigger and better service this coming spring. Order now to be assured of the best shipping dates.

LOUIS L. COUCH
The Village Beekeeper
PINEVILLE, LOUISIANA

FOR SALE

BRIGHT YELLOW AND THREE BAND QUEENS

GRAYDON BROS.
RT. 2 GREENVILLE, ALA.

CAUCASIANS

NO MORE QUEENS THIS SEASON

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Postscript For October

Leroy A. Wilson of Veyo, Utah is one of those who report success with sainfoin. He puts it at the top of the list of the summer flowering plants for honey. He reports that the Persian sainfoin is outstanding and much better than the European varieties. He found it as yielding more forage, having more flowers and that the bees work it better.

In the American Bee Journal garden, the Persian sainfoin made a similar showing but neither form seems well enough adapted to the Mid-West to encourage general planting. More favorable reports come from Utah and from British Columbia.

Mr. Wilson is also enthusiastic about a spring flower native called mountain balm, **(Eriodictyon)**. There have been favorable reports of Eriodictyon from California, but this is the first report to come to us from so far east. Wilson reports a heavy bloom for two months, that it is able to grow on poor soil and under drought conditions and is the source of fine flavored honey.

It seems probable that there may be several plants growing in the western mountains which might profitably be cultivated by the beemen as the source of honey.

Some of the most active organizations among the beemen are in the vicinity of the large cities. One of the most energetic is at St. Louis. The secretary, George C. Nagel, contends that since the Federation meeting last year was at Tampa in the far south, and this time it will be at Salt Lake City in the far west, the next should be held at a central location. St. Louis, he thinks is the logical place, since it is convenient to more people than any other city. One thing is sure, the St. Louis boys will provide every facility for a good meeting.

September first finds our bird's-foot trefoil in full bloom for the second time. The first bloom came along with clover in June. Now I find the bees working it freely in late afternoon but seldom find any bees on the flowers early in the day.

In contrast I find them gathering pollen from the tall blue lettuce, **(Lactuca floridana)**, in early morning. They find an abundance of light colored pollen which is almost white. Although in past years they have seemed to get nectar from the flowers, this year, as far as I can see, they get only pollen.

From Betteravia, California, near the flower seed center of the world, comes an interesting letter from Lynn Reynolds. He reports that within a mile there are 40 acres of Ladino clover, 20 acres of cosmos, 10 of marigolds, two of Cauliflower for seed and acres of petunias, nasturtiums, anchusa and numerous others. Such an area should provide a great variety of bee pasture over a long season. Judging from the way the bees work cosmos and anchusa in our test garden, such an acreage should produce some garden flower honey. The Ladino clover blossoms the year around there, reaching its peak in August. Strangely enough we get heavier honeyflows in our short summer than occur in such mild climate.

Seed of Leavenworth's eryngo, **(Eryngium leavenworthi)** came to our test garden from Mrs. Olga Rolf Tiemann of Westboro, Missouri in January, 1947. The plants came into bloom early in September and at once attracted large numbers of honeybees in early morning. Numerous bumblebees also visited the flowers. The blossoms are of a very bright purple color and leaves are prickly. Texas beekeepers call the plant purple thistle and report surplus honey from it in the coast area. The quality is reported as rather inferior. It is of unusual interest because of the peculiar flowers.

From John Mosher of Moravia, New York, comes an interesting report of the sachaline commonly called "Bamboo," **(Polygonum sachalinse)**. The stalks which are about an inch in diameter grow to the height of 8 to 12 feet and bear large numbers of small white flowers. The bees swarm over the flowers and apparently get much nectar. The plant is related to buckwheat and is famous as a source of honey. It spreads rapidly from the root and is difficult to control so should be planted only where it cannot spread into unwanted areas.

October as usual takes us back to Hamilton for the winter months. With only a summer cottage at the Iowa farm, wife is always very glad to get back to the house where there is room to entertain her friends. As for me I enjoy the garden and the outdoor life better than days in the office.

This has been a year of great contrast. In May and June we had very heavy rains with floods that brought enormous damage. Then came a sudden change with no rain to amount to anything until the time this is written on September 12. Lawns are brown and dead, corn is firing and shrubs and plants are withering from drought. The honey crop is spotted in this region. Some beemen report fair crops in some apiaries with little or no surplus in other yards a few miles distant. Some neighborhoods report crop and others report failure. Surely a strange season.

Many of the legumes are poor honey plants. Of nearly 100 species in our test garden, only a small number yield nectar in sufficient quantity to insure profitable crops of honey even though the acreage be large. Probably not more than one in ten is dependable as a source of surplus honey. The milk vetches are a large group but few are of value to the beekeeper. One in Japan is reported as an important bee plant, but is not yet known in this country. There is one species native to Colorado which the beekeepers regard highly, and this one the bees visit freely in our garden. The genus Astragalus has proved disappointing. On the other hand most of the clovers do yield nectar freely.

FRANK C. PELLETT.

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